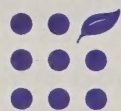


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September 2000

# Agricultural Income and Finance

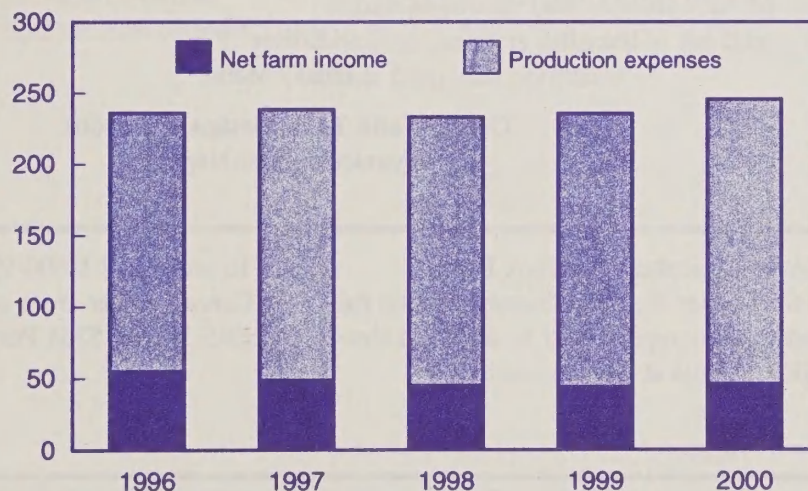
## Situation and Outlook Report

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### Farm Sector Income

*Gross farm income - Production expenses = Net farm income*

\$ billion



2000 forecast.

Source: Economic Research Service, USDA.



## Contents

<b>Highlights</b> .....	3
<b>Farm Sector Income Outlook</b>	
With Low Commodity Prices, Government Payments Support Farm Income . . .	4
<b>Farm Household Income Outlook</b>	
Farm Households' Incomes Remaining Steady .....	14
<b>Farm Sector Debt Outlook</b>	
Farm Sector Debt Anticipated to Stabilize in 2000 .....	17
<b>Enterprise Costs and Returns</b>	
Production Costs Changed Little in 1999, but Lower Commodity Prices Cut Most Returns .....	25
<b>1999 Agricultural Resource Management Study Survey Analysis</b>	
Sixty-Eight Percent of Farm Businesses Entered 2000 in a Financially Favorable Position .....	29
<b>List of Tables</b> .....	33

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## Highlights

### ***Large Government Payments Underlie Slightly Higher 2000 Income***

Net farm income is forecast at \$45.6 billion in 2000, up \$2.2 billion from \$43.4 billion in 1999 and \$400 million dollars above the 1990-99 average of \$45.2 billion. This increase is due primarily to an infusion of government assistance that is likely to surpass 1999 payments by \$2.7 billion.

Net cash income in 2000 is forecast at \$55.4 billion, up \$800 million from \$54.6 billion in 1999 and \$800 million above the 1990-99 average of \$54.6 billion. With large supplies of most agricultural commodities and prospects for little or no near-term growth in demand, prices for major crops will likely remain low.

U.S. farmers are continuing to add to large existing supplies of major field crops. This, in combination with a high volume of output from foreign competitors and weak export markets, is keeping prices low. Farmers and ranchers are also encountering higher expenses for interest, labor, and fuels. To counteract these events, Congress has enacted emergency legislation to soften these impacts and to boost bottom lines.

Data from USDA's 1999 Agricultural Resource Management Study survey of producers showed 41.6 percent of all farms received government payments. Payments averaged about \$17,000 for those operations receiving payments, contributing 13 percent of gross cash income earned by these farms.

Total U.S. crop receipts are forecast at \$94.1 billion, \$900 million above 1999. This follows a combined \$18-billion drop for 1998 and 1999. Livestock receipts are also forecast up, led by beef and hogs.

Total expenses are forecast up about 4 percent in 2000, led by a \$2.4-billion increase in fuel expenses. The two major livestock-related expenses will both increase in 2000. Feed expenses are forecast to rise just over 1 percent. Feeder livestock and poultry purchases are forecast to rise another 8.6 percent, following a 10-percent jump in 1999.

Expenditures for the three major crop-related expenses – seeds, fertilizer, and pesticides – are forecast at \$26.4 billion in 2000, a 2.4-percent increase over 1999. After remaining level or falling in 1999, all three expenses are forecast to rise in 2000.

At the major commodity level, 1999 costs of production showed little change from the previous year. However, with substantially lower commodity prices, net returns fell. Market prices for corn, soybeans, cotton, and wheat in 1999 were substantially below the 5-year average, running more than 20 percent less for these commodities and continuing their downward trend from highs in 1996. Both the 1999 harvest and marketing year average prices were at or below the 1999 loan rate, providing a strong incentive for producers to utilize features of the loan program. Loan deficiency payments were substantially higher for these crops in 1999 than in previous years.

Debt levels at the end of 2000 are expected to be unchanged from the end of 1999 as many farmers take advantage of high levels of 2000 government payments to improve their financial position by reducing debt. Despite relatively low agricultural commodity prices since 1998, the financial condition of farm operations, on average, has remained robust. One indication of the relative strength of the farm sector is reflected in the financial condition of bank farm loan portfolios.



## With Low Commodity Prices, Government Payments Support Farm Income

*Net farm income is forecast to rise 5 percent in 2000 as supplemental Federal payments and slightly higher commodity receipts offset rising expenses.*

### Factors Influencing 2000 Incomes

Major factors affecting farm income in 2000 are:

- ◆ Continued high production of field crops here and abroad;
- ◆ Low prices due to large supplies and weak export markets;
- ◆ Higher expenses for interest, labor, and fuels; and
- ◆ Emergency legislation enacted in June to support farm income.

These causal factors for the most part are beyond the control of farmers and ranchers. With the exception of areas of drought or fires, production continues to be large, keeping prices low. Macroeconomic forces are shaping the rising expenses. Bottom lines are supported by emergency supplemental payments.

Table 1--Income statement for U.S. farm sector, 1998-2000F

	1998	1999	2000F
	\$ billion		
Cash income statement:			
1. Cash receipts	196.6	188.6	194.5
Crops	102.5	93.1	94.1
Livestock	94.1	95.5	100.3
2. Direct government payments	12.2	20.6	23.3
3. Farm-related income	13.9	15.8	15.9
4. Gross cash income (1+2+3)	222.6	225.0	233.6
5. Cash expenses	167.2	170.4	178.3
6. NET CASH INCOME (4-5)	55.4	54.6	55.4
Farm income statement:			
7. Gross cash income (1+2+3)	222.6	225.0	233.6
8. Nonmoney income	11.3	11.4	11.5
9. Inventory adjustment	-0.7	-0.9	0.3
10. Total gross income (7+8+9)	233.2	235.5	245.5
11. Total expenses	188.6	192.1	199.8
12. NET FARM INCOME (10-11)	44.6	43.4	45.6

Note: Totals do not add due to rounding.

Net farm income is forecast at \$45.6 billion in 2000, up \$2.2 billion from \$43.4 billion in 1999 and \$400 million dollars above the 1990-99 average of \$45.2 billion (tables 1 and 2). This increase is due to an infusion of government assistance that could surpass 1999 payments by \$2.7 billion.

Net cash income in 2000 is forecast at \$55.4 billion, up \$800 million from \$54.6 billion in 1999 and \$800 million above the 1990-99 average of \$54.6 billion. With large supplies of most agricultural commodities and prospects for little or no near-term growth in demand, prices for major crops will likely remain low. With low commodity prices, loan deficiency payments continue to help support farm income.

Total production expenses have risen with the recent rise in fuel prices. However, these expenses are likely to stabilize in the near future as farmers adjust production practices to reduce costs and achieve operational efficiencies.

### Third Round of Emergency Assistance Legislation Enacted

Legislation passed by Congress and signed into law by the President on June 20, 2000, authorizes \$15.1 billion in additional federal assistance to farmers. An estimated \$6.7 bil-

lion will be in the form of direct payments to farmers and thus reflected in the government payments component in the accounting for farm sector income; and of that amount, \$6.3 billion is forecast to be disbursed in calendar year 2000. Some of the direct payments will not accrue to net farm income, as the portion going to nonoperator landlords will be excluded.

Of the direct payments, \$5.5 billion is part of the FY-2000 budget and must be disbursed by September 30. Because the \$5.5 billion is to be paid proportionally to the recipients of AMTA payments, who have annual market-transition contracts with the government, no application process is necessary, and payments can be made expeditiously. This \$5.5 billion in payments would go to grain and cotton producers.

The remaining portion of the direct payments is part of the FY-2001 budget and will be disbursed after October 1. The entire amount may not be disbursed by December 31 and some payments will be reflected in farm income for 2001. These funds are earmarked to benefit growers of other commodities, including soybean and sunflower, tobacco, apples, black-eyed peas, cherries, citrus, cranberries, onions, melons, peaches and potatoes and cottonseed, as well as fruit



Table 2--Value added to the U.S. economy by the agricultural sector via the production of goods and services, 1996-2000F

United States	1996	1997	1998	1999F	2000F	1990-99	2000 as %
						average	of 1990-99
			---- \$ million ----			\$ billion	Percent
Final crop output	115,555	112,350	102,138	93,138	95,498	95.5	100.0
Food grains	10,795	10,411	8,892	7,292	6,838	8.9	77.1
Feed crops	27,189	27,048	22,666	19,752	20,740	22.0	94.4
Cotton	6,983	6,345	6,101	4,696	4,947	5.9	84.0
Oil crops	16,357	19,802	17,483	13,555	14,347	14.9	96.4
Tobacco	2,795	2,874	2,803	2,273	1,839	2.7	66.9
Fruits and tree nuts	11,928	13,134	12,238	12,975	11,516	11.1	103.3
Vegetables	14,444	14,653	15,145	15,164	15,948	13.7	116.4
All other crops	15,814	16,866	17,136	17,441	17,935	15.0	119.4
Home consumption	146	146	146	146	148	0.1	100.9
Value of inventory adjustment 2/	9,104	1,070	-472	-154	1,239	na	na
Final animal output	92,024	96,470	94,193	95,080	99,827	91.2	109.5
Meat animals	44,154	49,681	43,336	45,600	51,941	47.4	109.5
Dairy products	22,785	20,940	24,114	23,204	21,286	20.8	102.3
Poultry and eggs	22,456	22,260	22,942	22,942	23,489	19.1	122.7
Miscellaneous livestock	3,442	3,581	3,719	3,717	3,625	3.1	115.7
Home consumption	334	382	347	362	381	0.4	91.8
Value of inventory adjustment 2/	-1,147	-374	-266	-745	-896	na	na
Services and forestry	20,779	22,127	24,676	26,709	26,867	19.5	137.6
Machine hire and customwork	2,153	2,361	2,205	2,044	2,228	2.0	111.8
Forest products sold	2,583	2,778	2,985	2,946	2,900	2.5	115.7
Other farm income	6,191	6,896	8,672	10,849	10,762	6.1	177.6
Gross imputed rental value of farm dwellings	9,852	10,092	10,815	10,869	10,977	9.0	122.4
Final agricultural sector output	228,357	230,947	221,007	214,927	222,191	206.2	107.8
less: Intermediate consumption outlays	113,180	121,001	118,528	120,824	126,721	107.0	118.5
Farm origin	42,738	46,846	44,792	45,550	47,188	42.1	112.1
Feed purchased	25,237	26,334	25,030	24,525	24,786	22.9	108.3
Livestock and poultry purchased	11,289	13,800	12,550	13,812	14,999	13.4	111.6
Seed purchased	6,212	6,711	7,212	7,212	7,403	5.8	127.9
Manufactured inputs	28,590	29,231	28,150	27,311	30,215	25.5	118.6
Fertilizers and lime	10,929	10,927	10,624	9,921	10,266	9.5	107.8
Pesticides	8,518	9,018	9,018	8,618	8,711	7.5	116.2
Petroleum fuel and oils	5,979	6,243	5,600	5,784	8,170	5.6	144.9
Electricity	3,164	3,044	2,908	2,987	3,068	2.8	108.5
Other intermediate expenses	41,852	44,924	45,586	47,963	49,317	39.4	125.3
Repair and maintenance of capital items	10,252	10,407	10,356	10,521	10,710	9.5	112.8
Machine hire and customwork	4,717	4,923	5,408	5,264	5,524	4.5	122.2
Marketing, storage, and transportation expenses	6,928	7,119	6,859	7,261	7,752	6.1	126.5
Contract labor	2,126	2,591	2,377	2,582	2,687	2.0	133.7
Miscellaneous expenses	17,831	19,883	20,586	22,335	22,643	17.2	131.5
plus: Net government transactions	238	196	4,806	13,099	15,666	3.4	455.9
+ Direct government payments	7,340	7,495	12,209	20,594	23,285	10.3	226.4
- Motor vehicle registration and licensing fees	411	450	481	441	449	0.4	110.0
- Property taxes	6,691	6,849	6,922	7,054	7,170	6.4	111.3
Gross value added	115,415	110,142	107,285	107,203	111,136	102.6	108.3
less: Capital consumption	19,426	19,558	19,736	19,862	19,810	18.9	104.6
Net value added	95,989	90,585	87,549	87,341	91,326	83.7	109.1
less: Factor payments	41,075	41,983	42,925	43,943	45,695	38.5	118.8
Employee compensation (total hired labor)	15,206	16,018	16,904	17,491	18,386	14.4	127.8
Net rent received by nonoperator landlords	12,908	12,833	12,657	12,863	13,253	11.6	113.9
Real estate and nonreal estate interest	12,961	13,133	13,365	13,589	14,055	12.4	113.0
Net farm income	54,914	48,601	44,623	43,398	45,632	45.2	100.9

na = Not available. F = forecast. 1/ Final sector output is the gross value of the commodities and services produced within a year. Net value-added is the sector's contribution to the National economy and is the sum of the income from production earned by all factors-of-production. Net farm income is the farm operators' share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development. 2/ A positive value of inventory change represents current-year production not sold by December 31. A negative value is an offset to production from prior years included in current-year sales.



growers in the Northeast who have been hurt by plum pox virus. The legislation also includes about \$8 billion to expand and cut the cost of Federal crop insurance over the next 5 years. This will be reflected in farm income accounting via lower premium rates to producers for crop insurance and in any additional insurance indemnities received.

In the 3 years 1998-2000, government payments, with additional emergency assistance, have been sufficient to maintain net farm income at, and even above, the 1990-99 average. The majority of the payments came from three government programs: production flexibility contract payments (sometimes referred to as AMTA payments), loan deficiency payments (LDP's), and emergency supplemental appropriations enacted in October 1998, October 1999, and June 2000. The forecast for 2000 includes modestly declining production flexibility payments and rising LDP payments.

Production flexibility payments are continuing to decline as set forth in the 1996 Farm Act. The farmer has an option of taking a portion of the payment prior to December 31, or taking all of the payment in the forthcoming calendar year. The forecast of \$4.85 billion for 2000 comes from amounts budgeted for fiscal years 2000 and 2001 (table 3). The forecast assumes that about 20 percent of fiscal year 2001's appropriated funds will be taken by December 31, 2000, and the remainder taken next calendar year.

Continued low program commodity prices will result in a large increase LDP's paid in 2000 compared to 1999 levels. At current expected prices, 2000 LDP levels to producers of major field crops such as corn and soybeans could amount to \$7.6 billion, compared with \$5.9 billion last year. LDP's, which pay farmers the difference between posted county prices and Commodity Credit Corporation loan rates, increase as posted county prices decline.

Total expected payments of \$23.3 billion in 2000 would exceed the large payments of last year and represent better than 10 percent of cash revenues. Supplemental aid represents about 38 percent of expected outlays in 2000, while conservation programs represent only about 8 percent.

## Which Farms Receive Government Payments?

According to USDA's 1999 Agricultural Resource Management Study (ARMS), 41.6 percent of all farms received government payments. This was up from 1998 when 36 percent of farms reported receiving payments. Gross cash income of farms receiving government payments in 1999 averaged \$125,937, better than twice that of farms not receiving payments. Only for nonfamily farms was the average gross income for farms receiving government payment less than the gross cash income for farms not receiving government payments.

Payments averaged \$16,751 for those operations receiving payments, contributing 13.3 percent of gross cash income to these farms (table 4). Although only 1 percent of government payments went to limited resource farms, these payments represented 27 percent of those farms' gross cash income. Only 28 percent of residential/lifestyle farms received any government payments. As expected, the largest government payments went to very large family farms. Nearly 69 percent of very large farms received government payments, but they represented only 8 percent of gross cash income.

Looking at the composition of average government payments received by those farms receiving payments, AMTA and loan deficiency payments each contributed about one-third of the total (fig. 1). Across farm typology, the level of AMTA payments was about the same as the level of loan deficiency payments (table 5). Emergency supplemental payments contributed 22 percent of the total, exceeding the level of CRP payments. However, for retirement farms, better than 50 percent of government payments were CRP payments.

Further examination of payment recipients shows that operations specializing in cotton (over 50 percent of gross agricultural production from cotton) received the highest average payment, \$75,560, of any commodity specialization (table 4). The Mississippi Portal region shows the highest payments of the regions, consistent with high production of cotton as well as rice and other major program commodities. Sizeable amounts of payments are also going to operations showing negative net incomes from farming and/or negative net worths.

Table 3--Direct government payments, 1996-2000F

	1996	1997	1998	1999	2000F	Change from 1999 to 2000	
			\$ million			\$ billion	Percent
Total direct payments 1/	7,340	7,495	12,209	20,594	23,285	2.7	13.1
Commodity programs	-732	-575	-5	na	na	0.0	na
Production flexibility (AMTA)	5,973	6,120	6,001	5,046	4,851	-0.2	-3.9
Loan deficiency payments	na	na	1,792	5,895	7,561	1.7	28.3
CRP and other	2,099	1,950	1,623	1,851	2,004	0.2	8.3
Emergency assistance 2/	0	0	2,841	7,804	8,870	1.1	13.7

F = forecast. na = not applicable.

1/ Includes only those funds paid directly to farmers and ranchers within the calendar year. 2/ Includes payments to farmers as a consequence of Emergency Assistance Legislation enacted in October 1998, October 1999, and June 2000.



Table 4--Distribution of government payments among farms, 1999

	Percent of payments	Percent of all farms	Percent of reporting farms	Percent of farms reporting payments	Percent of selected crops value of production	Percent of selected crops planted acres	Payments as percent gross cash income	Payments per all farms	Payments per reporting farms
All farms	100	100	42	100	100	100	13	6,966	16,751
Economic class:									
\$500,000 or more	24	3	66	5	27	23	7	56,270	85,533
\$250,000 to \$499,999	21	4	79	7	25	23	15	40,180	50,978
\$100,000 to \$249,999	29	9	80	18	30	32	17	22,084	27,545
\$50,000 to \$99,999	12	8	73	13	10	12	19	10,671	14,598
\$10,000 to \$49,999	11	21	57	29	7	9	22	3,688	6,452
Less than \$10,000	3	56	21	29	1	1	30	398	1,854
Farm acres operated:									
2,000 acres or more	25	3	76	6	26	29	13	53,101	70,165
1,000 to 1,999 acres	26	5	86	10	30	28	15	38,321	44,773
500 to 999 acres	23	8	83	16	24	23	14	20,415	24,608
250 to 499 acres	14	12	65	19	12	12	12	7,828	12,091
100 to 249 acres	9	24	50	29	7	7	13	2,667	5,361
Less than 100 acres	2	48	18	20	1	1	8	309	1,735
Farm type:									
Cash grain and oilseed	55	15	91	33	72	71	23	25,460	27,867
Cotton	7	1	94	2	11	6	21	74,249	78,638
Other crop	17	27	39	25	8	9	11	4,356	11,258
Beef	11	37	29	26	3	6	9	2,025	6,901
Hog	3	1	67	2	3	3	9	14,583	21,690
Dairy	6	4	78	8	2	4	4	9,406	12,000
Other livestock	2	15	12	4	1	2	8	851	7,258
ERS resource regions:									
Heartland	38	21	68	34	49	44	17	12,566	18,562
Northern Crescent	9	14	44	15	6	7	8	4,573	10,354
Northern Great Plains	11	4	78	7	7	13	20	19,984	25,611
Prairie Gateway	19	14	45	16	17	18	17	9,018	20,018
Eastern Uplands	2	16	24	9	1	1	7	808	3,398
Southern Seaboard	5	11	32	8	4	4	12	3,275	10,156
Fruitful Rim	8	12	16	4	6	4	6	4,506	28,564
Basin and Range	2	4	22	2	1	2	9	3,270	14,968
Mississippi Portal	7	4	40	4	9	7	21	11,791	29,126
Farm typology:									
Limited-resources	1	6	29	4	*1	1	27	1,127	3,924
Retirement	3	14	33	11	1	1	34	1,666	5,061
Residential/lifestyle	9	43	28	29	7	7	20	1,407	5,016
Farming occupation/lower sales	15	22	52	28	11	15	19	4,604	8,833
Farming occupation/higher sales	25	8	81	16	27	29	16	21,993	27,022
Large	21	4	81	7	24	22	15	41,033	50,790
Very large	22	3	69	4	26	21	8	58,650	85,208
Nonfamily	4	2	46	2	4	4	8	15,725	34,128

Selected crops include wheat, rice, corn, sorghum, barley, oats, soybeans, cotton. Coefficient of Variation = (Standard Error/Estimate)\*100. \* indicates that CV is greater than 25 and less than or equal to 50.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.



## Defining the Farm Typology

### *Small Family Farms (sales less than \$250,000)\**

**Limited-resource.** Any small farm with: gross sales less than \$100,000, total farm assets less than \$150,000, and total operator household income less than \$20,000. Limited-resource farmers may report farming, a nonfarm occupation, or retirement as their major occupation.

**Retirement.** Small farms whose operators report they are retired (excludes limited-resource farms operated by retired farmers).

**Residential/lifestyle.** Small farms whose operators report a major occupation other than farming (excludes limited-resource farms with operators reporting a nonfarm major occupation).

**Farming occupation/lower sales.** Small farms with sales less than \$100,000 whose operators report farming as their major occupation (excludes limited-resource farms whose operators report farming as their major occupation).

**Farming occupation/higher sales.** Small farms with sales between \$100,000 and \$249,999 whose operators report farming as their major occupation.

### *Other Farms*

**Large family.** Farms with sales between \$250,000 and \$499,999.

**Very large family.** Farms with sales of \$500,000 or more.

**Nonfamily.** Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers.

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\*The \$250,000 cutoff for small farms was suggested by the National Commission on Small Farms.

## Large Crop Harvests Continue

By historical standards, the last 4 years have been an unusually favorable period for crop production. Not only has there been little adverse weather, but rainfall has been generally abundant and timely, not only in the United States but in the

world's major agricultural producing countries. In late 1997 and 1998, rising world supplies of agricultural commodities in the face of weak international demand reduced U.S. farm exports and prices available to farmers (figs. 2-7). More recently, the cumulative effects of 4 consecutive years of large harvests have exacerbated the situation. The major producing countries in the Southern Hemisphere have produced another large harvest in 2000. While lack of rain and summer fires have damaged large land areas in the United States, the upper middle section of the country where much of the grain and oilseed production occurs has escaped serious problems and another large harvest of corn, wheat, and soybeans is forecast. Prior to 1996, the periodic occurrence of a significant drought in one or more major crop-producing regions resulted in a drawdown of crop inventories overhanging the markets and relieved downward pressure on market prices available to farmers (figs. 8 and 9). This has not occurred in the past 4 years.

## Southern Plains Drought

Months of very dry conditions combined with an above-normal number of 100-degree days, centered in northern Texas, have produced drought conditions among the most severe experienced in the last century. Lost production of crops and livestock will cost the States in the region a substantial portion of their agricultural production this year.

Producers of cotton, a major crop in the Texas Panhandle, are being particularly hurt by the drought. Cattle producers in this region are also encountering rising costs for feed and animal losses due to the heat and lack of water for the cattle. The net result will be a significant loss of income for these producers and the region.

## U.S. Crop Receipts Rising

Total crop receipts for 2000 are forecast at \$94.1 billion, \$900 million above 1999. Receipts will be up about \$1 billion for major field crops—food grains, feed grains, cotton, oil crops, and tobacco. Fruit and nut receipts are expected to be down around \$1.4 billion as favorable weather in 1999 led to increased production, causing prices to dip.

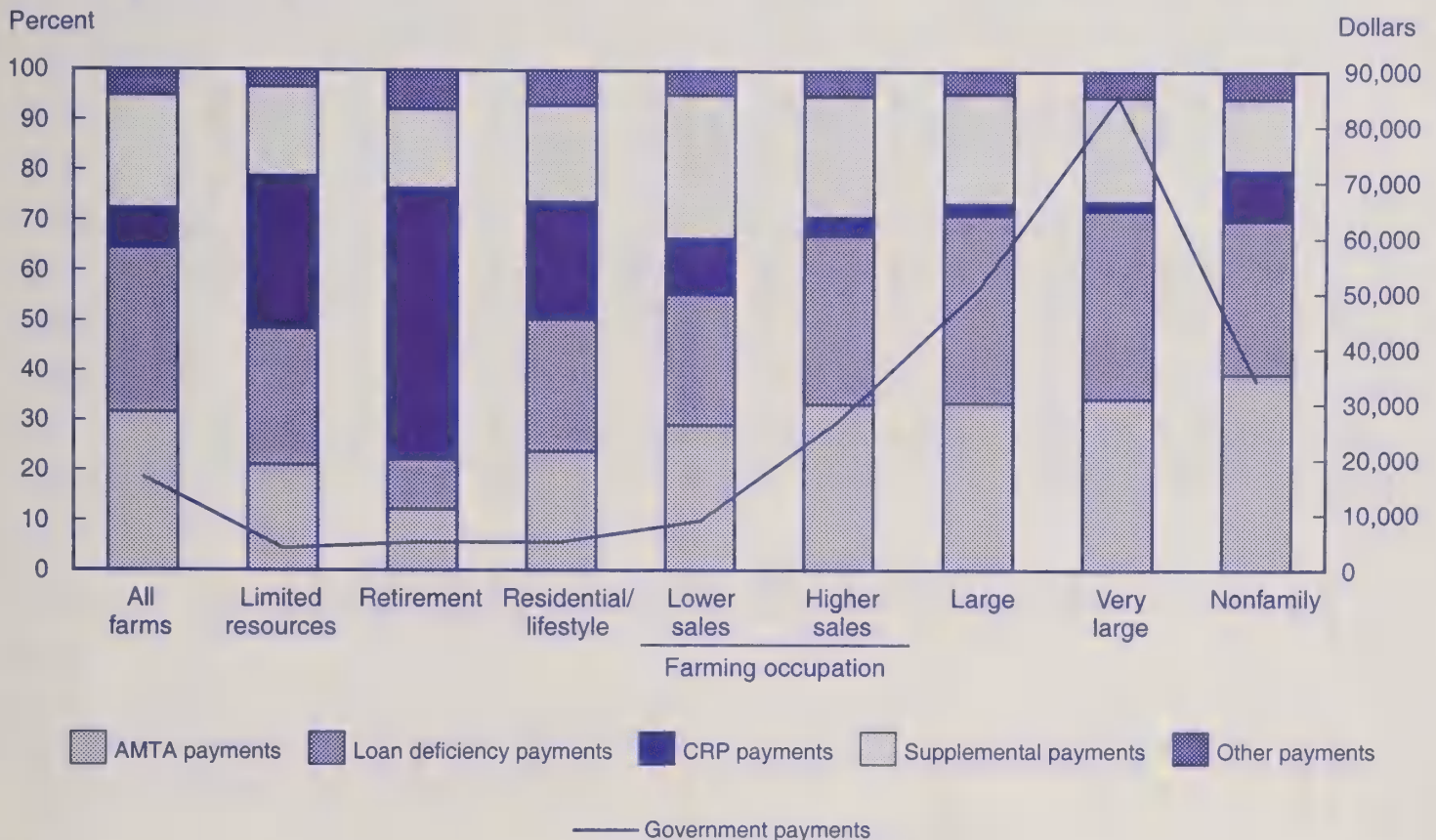
## Expenses Up Slightly, Led by Fuel, Labor, and Interest

Total expenses are forecast to increase by \$7.7 billion (4.0 percent) in 2000, led by a \$2.4-billion increase in fuel expenses. The increase in total expenses in 2000 resembles the upward movement in expenses encountered during 1993-97, when expenses increased more than \$6.5 billion each year. This pattern was broken by the decrease in expenses in 1998 and the relatively small increase in 1999. Total farm production expenses, including operator dwellings, equaled 89 percent of final agricultural sector output in both 1999 and 2000. This ratio, which reflects



Figure 1

# Composition of government payments and mean government payments for farms receiving payments, 1999



Source: 1999 Agricultural Resource Management Study, ERS, USDA.

very tight operating margins for farmers, is at its highest level since 1983 (fig. 10), and the third highest ever.

**Livestock-related expenses**—The two major livestock-related expenses will both increase in 2000. Feed expenses are forecast to rise just over 1 percent. After rising more than \$1 billion each year from 1993 to 1997, feed expenses fell \$1.8 billion over 1998 and 1999 and will remain \$1.5 billion below their 1997 peak even given the small increase in 2000. This drop is due primarily to lower feed prices during the past 4 years.

The small increase in 2000 feed expenses is due to the combination of upward movements in both cost and quantity used. Through July, NASS's Prices Paid Index for feed is up 2.5 percent, led by an 11-percent increase in concentrates. Even though cattle and hog inventories are both down, cattle on feed were up in each of the first three quarters of 2000 as a result of producers' continued herd reduction. Poultry production is again rising, as returns to producers remain favorable due to relatively low feed costs.

Feeder livestock and poultry purchases in 2000 are forecast to rise another 8.6 percent following a 10-percent jump in 1999. Cattle expenses mostly drive this expense. In 2000,

the price of feeder cattle is forecast to increase 12 percent but will be offset somewhat by a decline in the number of head purchased. The other significant part of this expense is the value of broiler poulters which will be up in 2000 as well.

**Crop-related expenditures up in 2000**—Expenditures for the three major crop-related expenses – seeds, fertilizer, and pesticides – are forecast at \$26.4 billion in 2000, a 2.4-percent increase over 1999. After remaining level or falling in 1999, all three expenses are forecast to rise in 2000. The increase in fertilizer expenditures halts a 3-year slide. The principal quantity factor affecting these expenses in 2000, acres planted, has risen modestly. Two of the three prices paid indexes for these inputs have also risen in 2000 (as reported by USDA's National Agricultural Statistics Service).

Indicated quantities of the three principal fertilizer nutrients are all up. Through July, the mixed fertilizer and potash and phosphate subcomponent price indexes are both down around 4 percent but the nitrogen index has risen 12 percent, spurred by higher natural gas prices. The result is a 2-percent increase in the fertilizer index. Herbicides account for about 75 percent of all pesticides applied and, therefore, are the largest factor in pesticide expenses. In 2000, indicated herbicide usage is up a little over 2 percent while the price

Table 5--Program participation, average government payment, and payments contribution to farm income by program and farm typology, 1999

Item	48 States	Farm typology					Very large	Nonfamily
		Limited- resources	Retirement	Residential/ lifestyle	Lower sales	Higher sales		
All farms	2,186,950	126,920	297,566	931,561	480,441	175,370	77,314	39,374
Average gross cash income (\$)	74,865	7,838	9,456	12,969	34,252	160,621	321,084	523,292
Average government payments (\$)	6,966	1,127	1,666	1,407	4,604	21,993	41,033	15,725
Farms receiving government payments	909,484	36,441	97,927	261,188	250,391	142,734	62,461	18,142
Percent of all farms (%)	41.6	28.7	32.9	28.0	52.1	81.4	80.8	46.1
Average gross cash income (\$)	125,937	14,309	15,032	24,766	45,513	164,939	1,063,390	410,459
Average government payments (\$)	16,751	3,924	5,061	5,016	8,833	27,022	50,790	34,128
Percent of gross cash income (%)	13.3	27.4	33.7	20.3	19.4	16.4	15.1	8.3
Average AMTA payments (\$)	5,303	825	615	1,193	2,577	9,005	17,062	13,431
Average loan deficiency payments (\$)	5,496	*1,076	505	1,335	2,312	9,132	19,119	10,515
Average CRP payments (\$)	1,326	*1,189	2,751	1,176	1,001	994	1,193	3,394
Average emergency payments (\$)	3,754	*700	796	963	2,521	6,512	11,120	*4,918
Average other payments (\$)	871	*134	394	350	422	1,381	2,295	*1,870
Farms receiving AMTA payments	481,955	16,128	27,348	111,387	140,993	103,707	45,916	*9,730
Average gross cash income (\$)	155,899	18,586	23,523	32,269	51,144	165,038	337,072	*450,398
Average government payments (\$)	24,883	5,213	6,105	7,075	11,517	31,675	58,379	50,301
Average AMTA payments (\$)	10,008	1,865	2,203	2,796	4,576	12,393	23,211	*25,043
Farms receiving loan deficiency payments	435,483	*11,196	17,997	84,831	124,418	109,200	49,666	*9,363
Average gross cash income (\$)	178,871	24,438	30,254	42,357	54,251	164,527	340,612	*409,535
Average government payments (\$)	28,422	6,511	7,779	8,734	12,547	31,204	58,864	48,997
Average loan deficiency payments (\$)	11,478	3,503	2,748	4,110	4,653	11,936	24,045	*20,374
Farms receiving CRP payments	210,069	d	40,536	78,106	40,044	17,377	8,659	*8,421
Average gross cash income (\$)	86,431	d	13,143	14,142	47,748	172,262	330,819	98,869
Average government payments (\$)	16,154	4,272	7,727	5,421	13,760	40,030	73,676	*21,033
Average CRP payments (\$)	5,741	3,762	6,645	3,933	6,258	8,162	8,608	7,311
Farms receiving emergency payments	429,178	11,655	35,485	96,732	136,069	85,905	35,672	4,857
Average gross cash income (\$)	144,429	21,358	18,396	31,476	47,459	167,482	334,781	645,029
Average government payments (\$)	21,480	4,761	4,760	6,083	10,392	29,956	57,177	44,775
Average emergency payments (\$)	7,955	2,189	2,196	2,600	4,640	10,820	19,471	18,371
Farms receiving other payments	189,681	d	*21,077	52,485	44,685	35,274	15,463	*5,609
Average gross cash income (\$)	142,718	d	*16,033	25,277	48,671	164,292	351,549	*319,025
Average government payments (\$)	17,413	d	*4,514	4,261	8,367	25,104	48,644	*32,492
Average other payments (\$)	4,178	d	*1,832	1,742	2,367	5,587	9,270	6,050

Coefficient of Variation = (Standard Error/Estimate)\*100. \* indicates that CV is greater than 25 and less than or equal to 50. # indicates that CV is greater than 50 and less than or equal to 75.

d indicates value is not available due to insufficient data.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.



Figure 2  
**Monthly wheat prices**

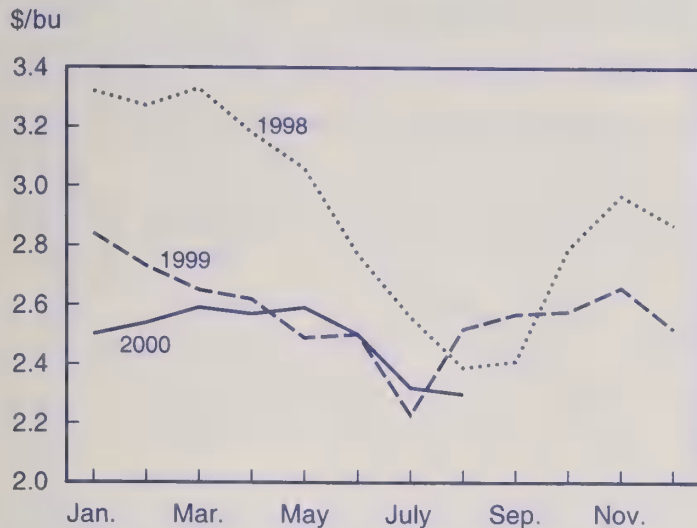


Figure 5  
**Monthly upland cotton prices**

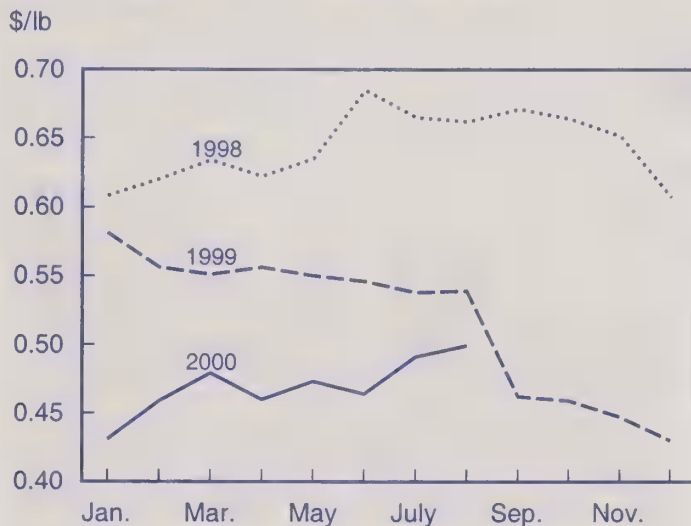


Figure 3  
**Monthly corn prices**

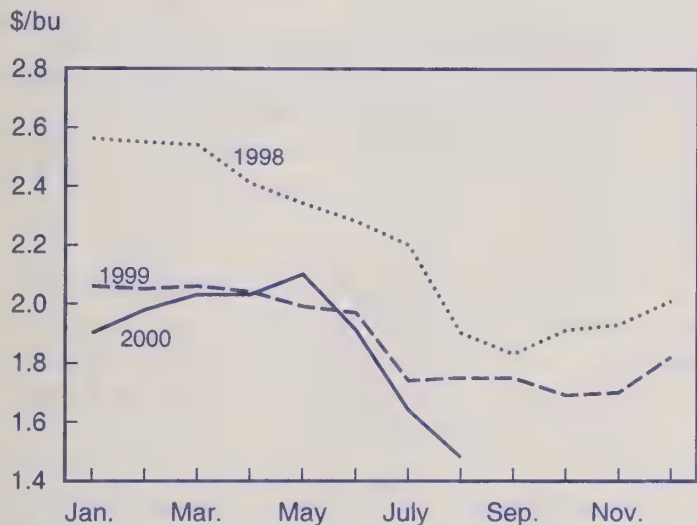


Figure 6  
**Monthly beef cattle prices**

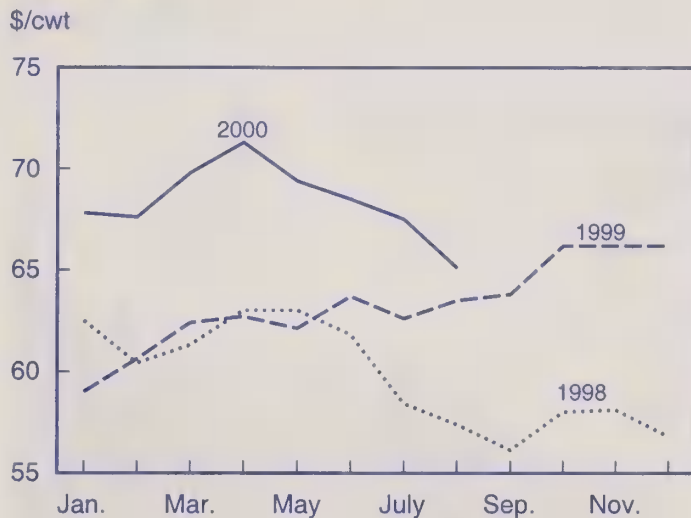


Figure 4  
**Monthly soybean prices**

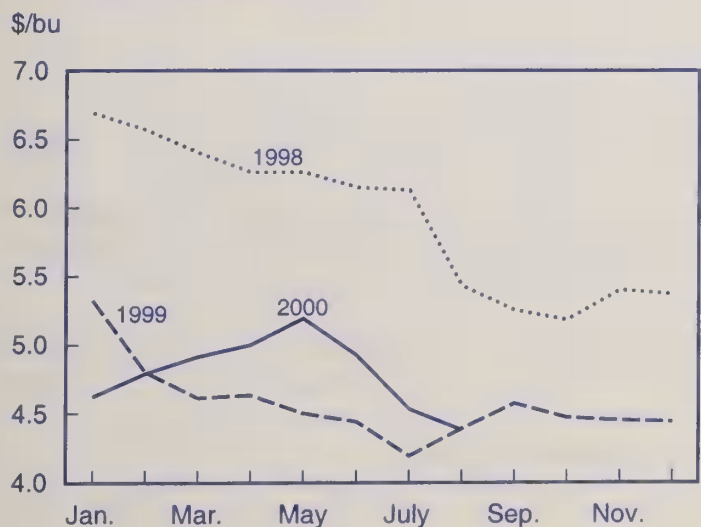


Figure 7  
**Monthly hog prices**

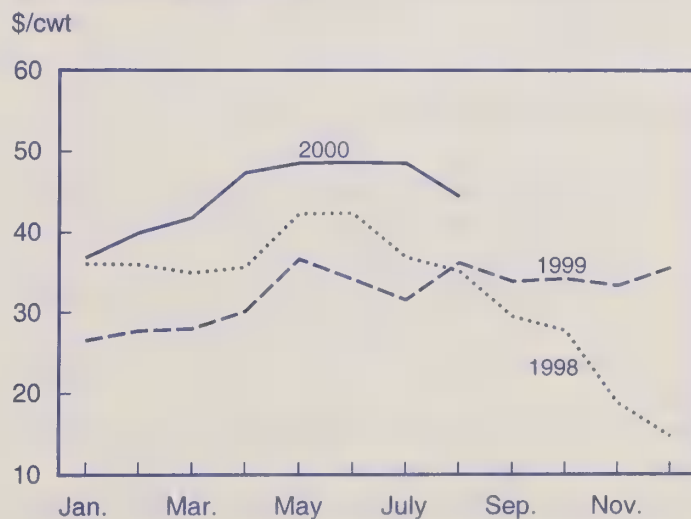
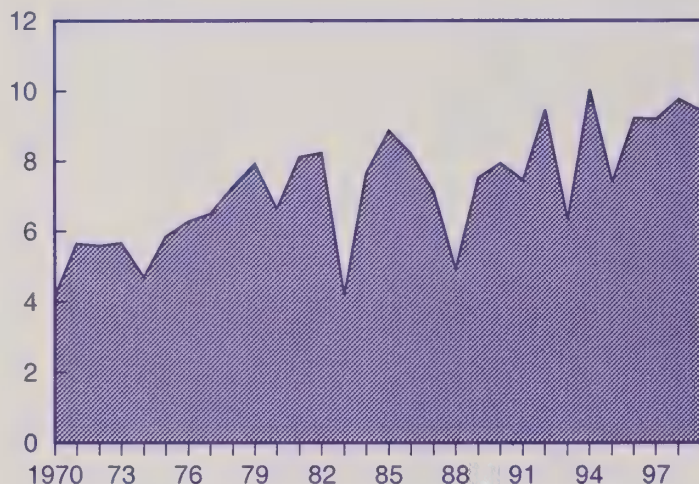




Figure 8  
**U.S. corn production**

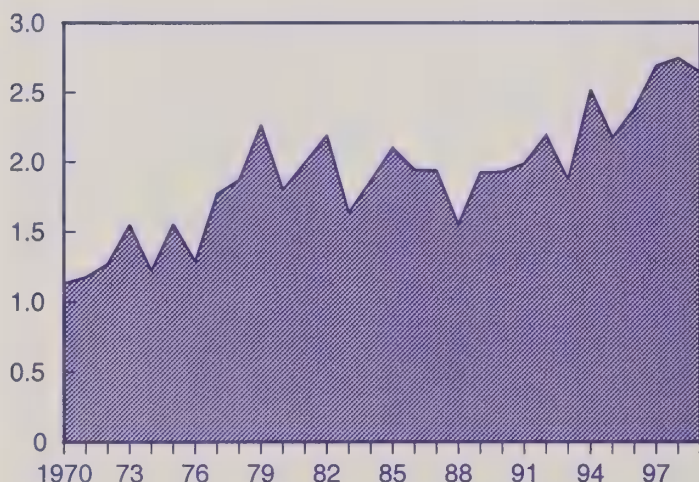
Bil. bushel



Source: National Agricultural Statistics Service, USDA.

Figure 9  
**U.S. soybean production**

Bil. bushel



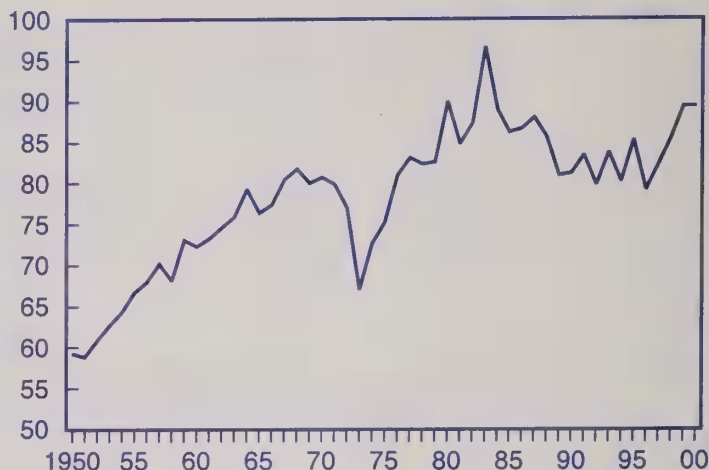
Source: National Agricultural Statistics Service, USDA.

index is down nearly the same amount, indicating a nearly identical expenditure as in 1999. Increases in other pesticides will contribute to a slightly less than 1-percent increase in forecast expenditures. In 2000, seed expenses are forecast to increase around 2 percent as planted acres increase and the prices paid for seed rises about 1 percent.

The level of expenditures for crop-related inputs has become more difficult to predict in recent years. Operators are adopting new technologies such as no-till farming and site-

Figure 10  
**Total production expenses as a percentage of agricultural sector output**

Percent



Source: Economic Research Service, USDA.

specific farming based on the Global Positioning System, which can reduce the quantities of inputs used. For the year 2000, the final prices being paid for these inputs are also hard to capture in traditional indexes as manufacturers and suppliers offer discounts, rebates, special financing, and other incentives.

**Other intermediate product expenses**—While farmers were mostly able to avoid the increases in fuel prices in 1999 because they came after planting season, in 2000, they will not be able to avoid the impact of the large increase in fuel prices. Coupling the rise in prices with the modest increase in the number of planted acres, fuel expenses are currently forecast to increase by more than 40 percent. It is possible that some operators may realize savings from adopting fuel-saving practices such as no-till cultivation, however. Machine hire and customwork and marketing, storage, and transportation expenses will also be affected by the rise in fuel prices and will both rise in 2000.

Capital consumption, which represents the cost of capital used in the production of commodities, is forecast to fall in 2000 for the first time since 1987. Since capital consumption is calculated at replacement cost, the primary factor driving this expense is prices paid for vehicles, machinery, and building construction. While new tractor and machinery prices rose in 2000, a large inventory of used equipment has lowered prices for used tractors and machinery on dealers' lots and in auctions. The decreases in capital consumption in these two asset categories will be larger than the increases in the other four asset categories (operator dwellings, service buildings, autos, and trucks).

**Factor payments**—Labor expenses are forecast to rise \$1.0 billion (5.0 percent) in 2000. Farm wage rates drive this expense and they tend to follow wage rates in the general economy. With low unemployment, however, the competition provided by off-farm employment opportunities will probably put upward pressure on farm wage rates. Through July 2000, they are up about 4 percent. The small expansion in crop acreage, which should increase demand for farm labor, accounts for the remainder of the increase in this expense.

Interest expenses will again increase in 2000. An increase in real estate interest payments accounts for almost all of the change, as nonreal estate interest payments will remain nearly the same as in 1999. Real estate debt will continue to rise but at a slower rate in 2000. End-of-year real estate debt has risen every year since 1992 and real estate interest payments have increased each year since 1994. End-of-year nonreal estate debt is forecast to fall in 2000 for the second straight year. Increases in interest rates over the last 2 years have kept nonreal estate interest expenses from falling.



## Farm Households' Incomes Remaining Steady

*Despite declining farm income, the total incomes of farm operator households, on average, should remain about steady for 2000.*

The forecast for 2000 indicates farm operator household income should be approximately the same as in 1999, even though average farm earnings per household is forecast to decrease (appendix table 1). The forecasted decline in income from farming operations is more than compensated for with the increase in off-farm income. On average, farm operator households received \$64,347 in total income in 1999, mostly coming from off-farm sources (\$58,000 per household). Approximately \$6,400 per household came from farming activities (fig. 11). Operator household income consists of all the money income received by the operator household from all sources, both farm and off-farm.

The forecast of total operator household income, on average, is not highly sensitive to forecasted farm sector income because most U.S. farms are very small (only \$1,000 of gross agricultural sales is necessary to qualify as a farm). Approximately half of all farms have less than \$10,000 in

gross agricultural sales. Therefore, households operating these very small farms rely on off-farm income as their primary source of income.

Between 1998 and 1999 (the last year for which survey data are available), there were no statistically significant changes in average total household income, farm earnings, or total off-farm income. There has been substantial income growth for farm households, however, when longer periods of time are examined. For example, operator household income increased by 28 percent between 1996 and 1999, due largely to increases in off-farm income. There was a 40-percent increase in earned income, which includes wages, salaries, and off-farm business income. The share of farm households' income from farming decreased from 16 percent to 10 percent during the same period.

### Reliance on Farming for Income Varies

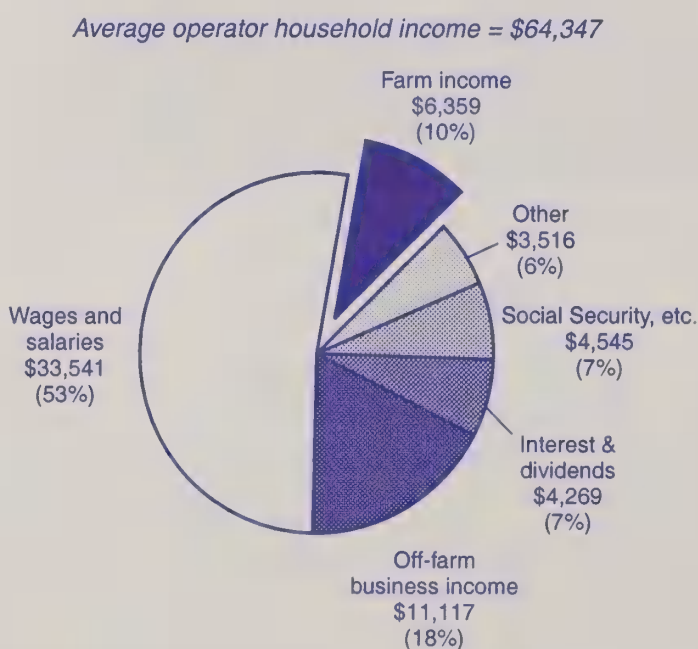
Nevertheless, some farm households rely heavily on income from farming. Reliance on farming varies widely across the ERS farm typology. Households operating four groups of small farms—limited-resource, retirement, residential/lifestyle, and lower sales—rely on off-farm sources for virtually all their income (fig. 12). On average, they actually lose money (or nearly break even) from farming activities. Limited-resource and retirement farms obtain most of their off-farm income from unearned income (interest, dividends, social security, and other passive sources). Residential/lifestyle and lower sales small farms rely more on earned income (wages, salaries, and off-farm business income).

Households operating the remaining family farms—higher sales small farms, large family farms, and very large family farms—all have positive average earnings from farming, and farm earnings increase among these groups as farm size increases. The share of household income from farming also increases with farm size, ranging from 50 percent of total household income for higher sales small farms to 60 percent for large family farms and 82 percent for very large family farms. Note that households in these three groups also receive substantial off-farm income, on average. For example, households operating very large farms receive an average of \$35,600 from off-farm activities, although most of their income comes from farming. These farms obtain most of their off-farm income from earned income.

Figure 11

### Sources of income for average farm operator household, 1999

*Earnings from the farm average 10 percent of total farm household income*



Note: Percentages do not add due to rounding.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.

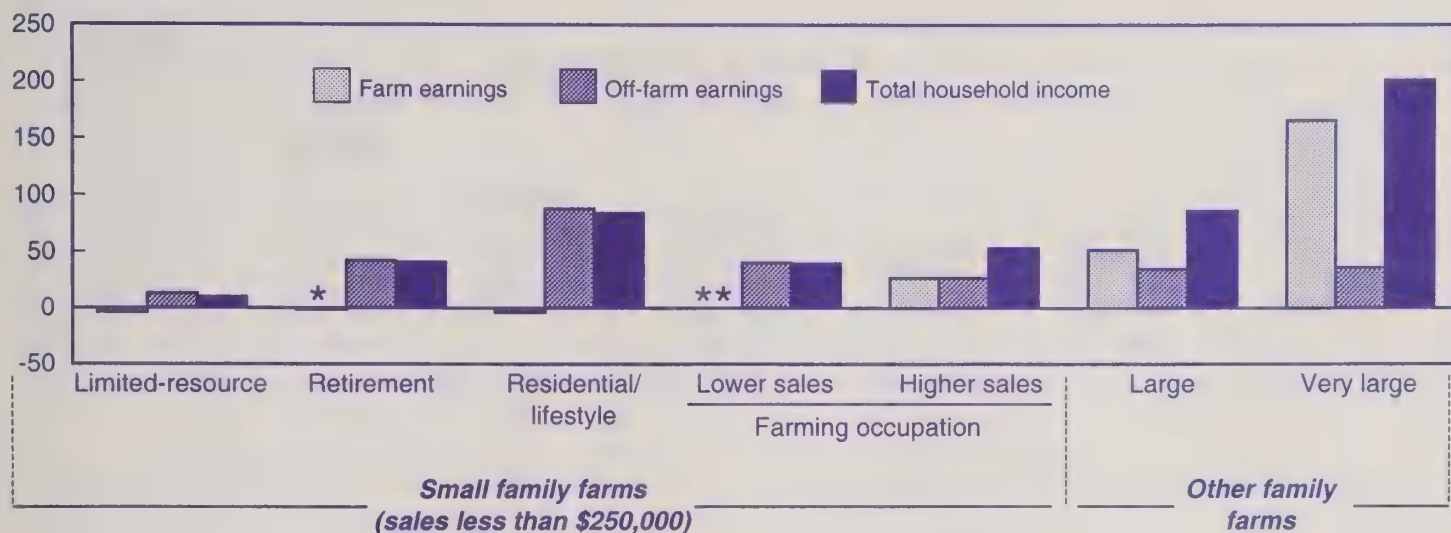


Figure 12

# Average operator household income, by source and farm typology group, 1999

*Households operating limited-resource, retirement, residential/lifestyle, and lower sales farms depend on off-farm sources for most of their income*

\$1,000/household



\*= CV for the earnings estimate is between 25 and 50 percent.

\*\*= CV for the farm earnings estimate is greater than 50 percent.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.

## Farms Account for Much of Operator Household Wealth

Although many farm households rely heavily on off-farm sources for income, a substantial share of operator household wealth comes from the farm, regardless of typology group (fig. 13). The farm accounts for the smallest share of household net worth (between half and two-thirds) in the limited resource, retirement, and residential/lifestyle groups. At the other extreme, approximately 85 percent of the net worth of households with higher sales farms, large

family farms, and very large family farms is based on the farm. Households operating lower sales farms have an intermediate position, with three-fourths of their net worth based on the farm.

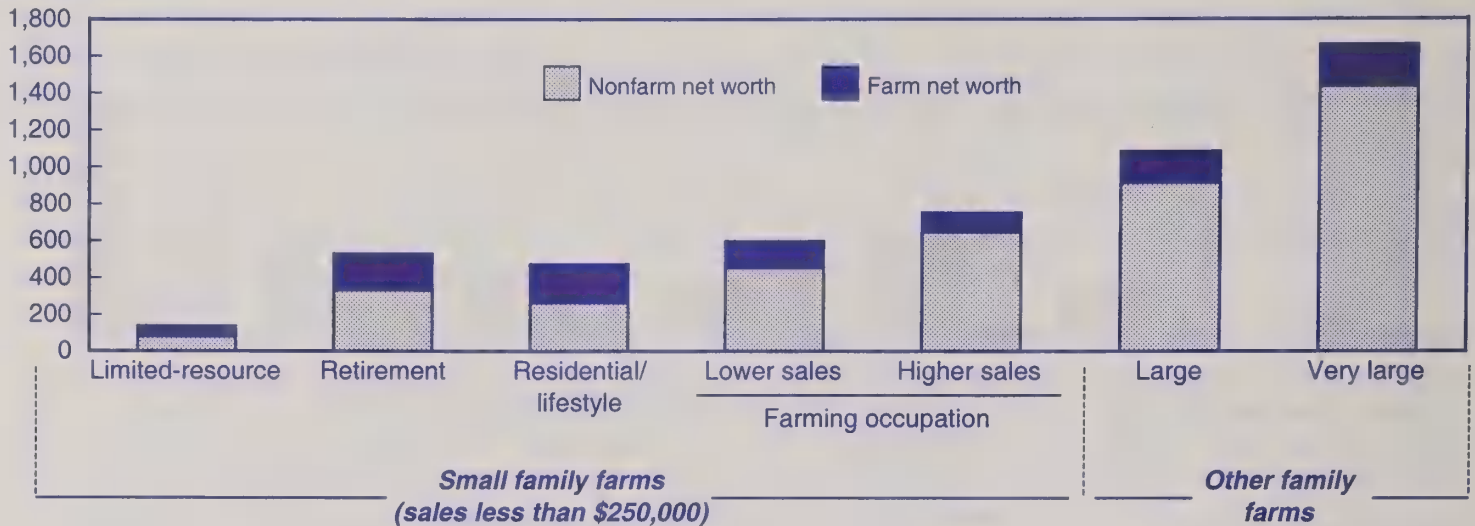
Farm households hold a variety of nonfarm assets (fig. 14). Residential/lifestyle households, however, hold a slightly different mix of assets than other households. They have a larger share of their nonfarm assets in retirement accounts (28 percent), probably because of their off-farm jobs, and they hold a smaller share in cash (16 percent).

Figure 13

# **Average operator household net worth, by source and by farm typology group, 1999**

*Regardless of typology group, the farm contributes substantially to operator households' wealth*

\$1,000/household



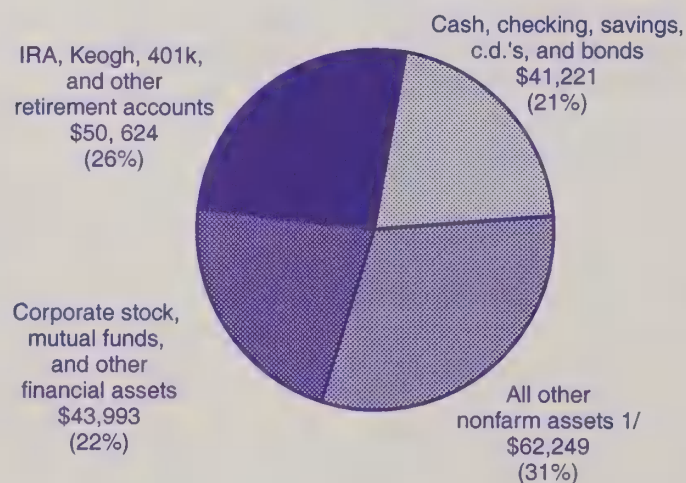
Source: 1999 Agricultural Resource Management Study, ERS, USDA.

Figure 14

# **Sources of nonfarm assets for average farm operator household, 1999**

*Operator households hold a variety of nonfarm assets*

Average nonfarm assets per operator household = \$198,087



1/ Includes real estate and businesses not part of the farm, off-farm houses, recreational vehicles, and household share of trucks and cars.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.

## Farm Sector Debt Anticipated to Stabilize in 2000

*Farm sector debt growth slowed to 1.6 percent in 1999, after surging 7.5 percent in 1998. Debt levels at the end of 2000 are expected to be unchanged from the end of 1999 as many farmers take advantage of high government payments to reduce debt and improve their financial position.*

Farm debt, as reported by lenders serving farmers, is forecast to stabilize in 2000. The anticipated slight decline marks the end of 7 consecutive years of growing farm debt balances, with the \$176.4 billion in debt outstanding at the end of 1999 marking its highest level since 1985. Debt stabilization in 2000 is projected to maintain farm debt above \$176.4 billion at the end of the year (table 6). A negligible contraction in outstanding loan balances in 2000 would follow debt growth of \$3.7 billion (2.2 percent) in 1999. This increase represented a relative slowing in farm debt expansion, following growth of \$7.2 billion (4.4 percent) in 1998 and \$9.3 billion (6.0 percent) in 1997, the largest consecutive annual increases since 1980.

While low commodity prices have reduced the cash receipts component of farm operators' incomes, additional assistance from the Federal government will allow most farmers to meet their current debt service needs. Many lenders felt that farmers were able to meet debt obligations in both 1998 and 1999 only because of government emergency assistance payments. These lenders also have expressed concern that many of their borrowers would have experienced severe repayment problems in 2000 in the absence of additional emergency funding

this year. Lenders are likely to exercise restraint in taking action against delinquent borrowers, as government payments provide the cash for another year's loan payments.

Given the current large world stocks of most commodities, agricultural product prices, in general, cannot be expected to rebound dramatically in the near future. The agricultural finance community is concerned that repayment problems may surface in the future, given the prospect of prices for many commodities remaining near or below 2000 levels, coupled with uncertainty surrounding continuing government emergency assistance. Indebted farm operators, encouraged by their lenders, will likely apply any cash to improve their balance sheets, reducing debt and limiting financial exposure due to future economic adversity.

### Farm Debt Up 2.2 Percent in 1999

Loan balance stabilization in 2000 follows a farm sector business debt increase of 2.2 percent in 1999. That gain continued a recent trend of slowing debt growth, which began with the fall in the rate of increase from 6 percent in 1997 to 4.5 percent in 1998. Those years represented an acceleration

Table 6--Debt outstanding, by lender, December 31, selected years, 1984-2000F

Lender	1984	1988	1992	1996	1998	1999	2000F
	\$ million						
Real estate	106,697	77,833	75,421	81,657	89,615	94,221	95,454
Farm Credit System	46,596	28,445	25,408	25,730	28,888	30,307	30,926
Farm Service Agency	9,523	8,980	6,394	4,702	4,073	3,872	3,556
Life insurance companies	11,891	9,039	8,765	9,468	10,723	11,490	11,806
Commercial banks	9,626	14,434	18,757	23,276	27,168	29,799	30,417
Individuals & others 1/	29,106	16,935	16,097	18,481	18,763	18,753	18,749
Nonreal estate	87,091	61,734	63,631	74,417	83,057	82,205	80,954
Commercial banks	37,619	28,309	32,912	38,344	42,842	41,993	41,040
Farm Credit System	18,092	8,766	10,346	14,015	16,622	15,916	15,168
Farm Service Agency	13,740	12,899	10,346	4,614	3,993	4,011	3,872
Individuals & others 1/	17,640	11,760	13,230	17,444	19,600	20,286	20,874
Total farm business debt	193,788	139,567	139,052	156,074	172,672	176,426	176,408
Farm Credit System	64,688	37,211	35,753	39,745	45,509	46,223	46,094
Farm Service Agency	23,263	21,879	13,538	9,316	8,067	7,882	7,428
Commercial banks	47,245	42,742	51,669	61,620	70,011	71,792	71,457
Life insurance companies	11,891	9,039	8,765	9,468	10,723	11,490	11,806
Individuals & others 1/	46,701	28,694	29,327	35,925	38,363	39,039	39,623

F= forecast.

1/ Prior to 1993, includes Commodity Credit Corporation storage and drying facility loans.

Source: Economic Research Service, USDA.



of the steady growth of indebtedness that began in 1993. The increase in loan balances during 1997 and 1998 constituted a significant increase in the annual growth rate of farm debt, which had approached 3.5 percent only twice since 1980. However, the 1997 and 1998 increases were relatively small compared with annual debt growth during the 1970's, when outstanding loan balances rose at an average annual rate of over 12 percent. The rapid growth in debt financing during that period is often cited as a significant contributor of the farm financial crisis that developed during the mid-1980's. By the end of 1999, total farm business debt had risen by \$37 billion since the beginning of 1993, a cumulative gain of 27 percent. Despite the recent rise in debt, year-end 1999 debt is expected to stand about \$17 billion below its 1984 peak value of almost \$194 billion.

Despite the increase in debt during the 1990's, farm business balance sheets have shown steady improvement. Further modest gains are expected in 2000, as a slight increase in asset values accompanies a marginal reduction in farm debt. Debt-to-asset ratios have stabilized near 16.5 during the decade of the 1990's, as the rise in the value of farm business assets, especially farm real estate values, has been proportionally greater than the increase in farm business debt. The improved equity position of most farm and ranch operations during the 1990's has provided producers with an added margin to lessen the impact of short-term declines in income.

Generally, farmers will have more cash available to service debt in 2000, as net cash income is expected to be about 1.5 percent above its 1999 level. However, this measure will be down about 4 percent from its record 1997 level. Net cash income has remained relatively stable, as rising government payments have offset declining cash receipts for many producers.

### ***Real Estate Debt Up 5 Percent in 1999, Nonreal Estate Debt Down 1 Percent***

The 1999 increase in total farm business debt was due to changes in real estate debt, which rose 5 percent, while nonreal estate debt declined by 1 percent. This marks the first year since 1992 that nonreal estate debt decreased. The shift in nonreal estate debt from institutional lenders to merchants, dealers, suppliers, and other credit sources is reflected in the 3.5-percent increase in debt owed to individuals and others in 1999. Meanwhile, nonreal estate debt held by banks declined 1 percent, and that held by the Farm Credit System declined over 4 percent. Nonreal estate debt is anticipated to decline over 2 percent in 2000.

During 1999, bank loans secured by farmland rose by almost 10 percent, and life insurance company (LIC) farm mortgage loans rose by over 7 percent. Several LIC's have become more aggressive in pursuing large farm loans in recent years, as evidenced by a 26-percent gain in outstanding loans since the beginning of 1996. Farm real estate debt

is expected to rise about 2 percent in 2000, reflecting both a relatively strong farmland market and creditors' desire to obtain maximum security for loans for any purpose.

### ***Banks Provide 40 Percent of Agricultural Credit, Farm Loans Show Little Stress***

Commercial banks are the largest source of credit for U.S. farmers and ranchers, providing more than 40 percent of the agricultural loan volume outstanding at the end of 1999. Farm debt held by banks is expected to decrease slightly in 2000, following a rise of 2.5 percent in 1999. While nonreal estate debt accounted for 58 percent of all bank farm loans at the end of 1999, most of the growth in bank loans in recent years has been in real estate lending. In 1999, bank loans secured by farmland increased almost 10 percent, while nonreal estate loans declined 2 percent. While there has been a slight increase in banks' provision of funds to acquire farmland, this shift in the composition of bank farm loans reflects bankers requesting farm borrowers to provide real estate as additional security for seasonal production and intermediate-term loans.

Despite relatively low agricultural commodity prices since 1998, the financial condition of farm operations, on average, has remained robust. The relative strength of the farm sector is reflected in the financial condition of bank farm loan portfolios. The strong performance of banks' farm nonreal estate loan portfolios, as reported by banks in call reports filed with the Federal Reserve Bank, indicate relatively few problem loans through the first quarter of 2000.

While bank charge-offs of agricultural nonreal estate loans rose from \$87 million in 1998 to \$126 million in 1999, these losses were mitigated by net recovery of \$35 million during the first quarter of 2000 (fig. 15). Furthermore, these amounts are relatively small compared with reported charge-offs of \$1.3 billion in 1985 and \$1.2 billion in 1986.

Agricultural banks entered 2000 well capitalized, reporting ample funds to meet the credit needs of qualified borrowers. Bank officers responding to first quarter 2000 surveys conducted by the Federal Reserve Banks of Chicago, Kansas City, Dallas, and Minneapolis indicate widespread improvement in borrower conditions. While more bankers in each region reported a softening in farmers' demand for loans and reduced availability of funds, relative to a year earlier, most also reported higher loan repayment rates and lower numbers of renewals and extensions. Additionally, fewer banks reported raising collateral requirements, compared with a year earlier.

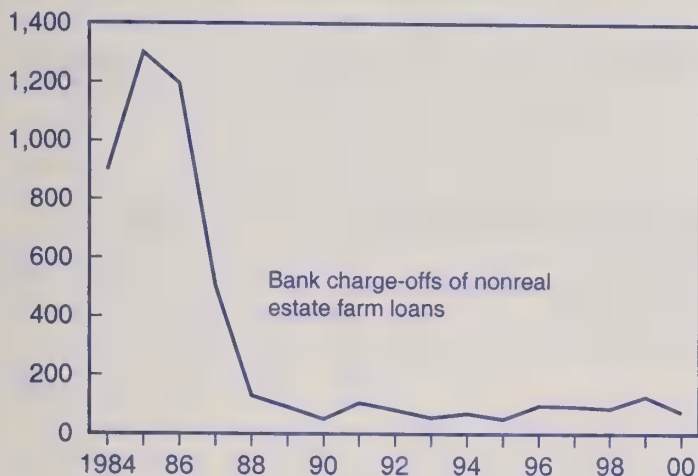
### ***Farmers' Use of Repayment Capacity Expected to Rise in 2000***

The recent rise in debt does not indicate impending financial distress in the farm sector. Farms with sales of at least

Figure 15

### Farm nonreal estate loan defaults remain relatively small compared with 1980's

\$ million



Source: Bank Call Reports.

\$50,000, on average, saw their ability to service debt improve in 1999. Nevertheless, farmers are expected to use their available credit lines more fully in 2000. Lenders generally require that no more than 80 percent of a loan applicant's available income be used for repayment of principal and interest on loans. For farm operators, this income available for debt service (measured as net cash income plus interest in USDA's farm sector accounts) can be used to determine the maximum amount of loan payment the farmer could make. Given current market interest rates and an established repayment period, the maximum debt that the farmer could carry with this loan payment can be determined. Using current bank interest rates and a 7-year repayment period, maximum feasible debt measures the line of credit that could be available to farmers.

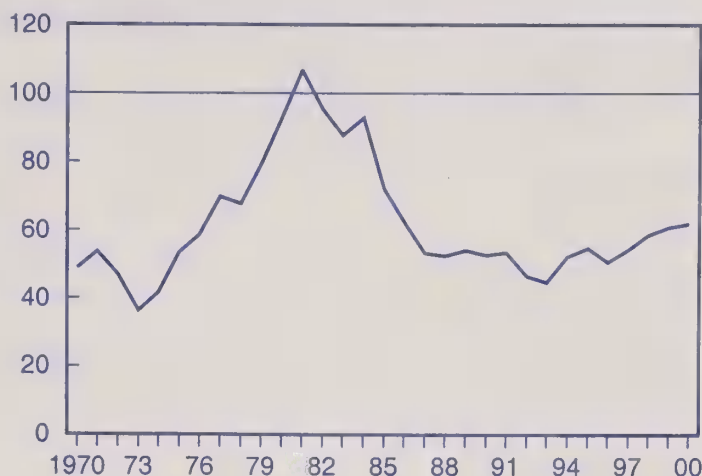
Debt repayment capacity utilization (DRCU, defined as actual debt as a percentage of maximum feasible debt) effectively measures the extent to which farmers are using their available lines of credit. This ratio indicates that, in 2000, farmers are expected to use almost 62 percent of the debt that could be supported by their current incomes (fig. 16). While this is the highest value this measure has attained since 1986, it is substantially below its levels during 1979-85, when it consistently measured above 70 percent.

More recent history provides additional evidence that some farmers are likely to have experienced rising financial difficulty throughout the last half of the 1990s, despite the rise in emergency government assistance in 2000. Use of debt repayment capacity rose from 45 percent in 1993 to 55 percent in 1995, then dropped to 51 percent in 1996, as high net cash income levels and lower interest rates offset the effect of the rise in outstanding debt. This measure rose to

Figure 16

### Debt repayment capacity utilization

Percent



Actual farm debt relative to a hypothetical maximum debt than could be carried based on repayment capacity.

Source: Economic Research Service, USDA.

54 percent in 1997, but the impact of continuing favorable interest rates in 1998 was not sufficient to offset the combined effects of rising debt and lower net cash income. As a result, use of debt repayment capacity rose to almost 59 percent in 1998. Lower income and rising debt in 1999 pushed this measure to almost 61 percent for the farm sector. It will probably approach 62 percent in 2000, as higher interest rates offset the effects of rising income and the negligible decline in debt.

### Financial Performance Varies by Farm Typology

The financial condition of farm operator households and financial performance of farms they manage differs considerably among household units. Analysis of 1999 ARMS data illustrates the diversity of U.S. farm operations, as evidenced by comparison of farm operator households classified by ERS' farm typology. This classification system recognizes the increasing contribution of income from off-farm sources to the financial well-being of farm operator households, especially those with limited farm sales. This analysis excludes nonfamily farming operations (about 40,000 farms) since household income data were not collected for managers of those operations.

Application of financial performance measures to operations in various typology classes reveals notable differences among farms in various typology groupings. The Economic Research Service has developed a financial performance measure that captures the combined effects of profitability and solvency in a single statistic (table 7). When off-farm income is excluded from the analysis, this overall financial performance measure indicates that over 62 percent of all



Table 7--Number of farms and financial performance classification, by farm typology group, 1999

Table 7. Number of farms and financial performance classification, by farm typology group, 1998								
Item	Small family farms 1/					Large family farms 1/	Very large family farms 1/	All farms
	Limited-resource 2/	Retire-ment 3/	Residential/lifestyle 3/	Farming-occupation 3/				
				Lower sales	Higher sales			
	Number							
Number of farms and households	126,920	297,566	931,561	480,441	175,370	77,314	58,403	2,147,576
	Percent							
Share of farms and households	5.9	13.9	43.4	22.4	8.2	3.6	2.7	100.0
	Percent distribution by financial performance							
Financial performance 4/								
Favorable	54.2	71.4	57.9	62.0	71.4	71.1	60.6	62.1
Marginal income	38.4	27.8	34.1	32.2	15.2	14.1	13.0	30.2
Marginal solvency	d	d	*2.2	*3.4	9.2	8.6	22.4	3.5
Vulnerable	d	d	5.9	2.3	4.3	6.2	3.9	4.2
	Percent distribution by typology group							
Financial performance 4/								
Favorable	5.2	15.9	40.4	22.3	9.4	4.1	2.7	100.0
Marginal income	7.5	12.8	49.0	23.9	4.1	1.7	1.2	100.0
Marginal solvency	d	d	*27.3	*21.7	21.5	8.8	17.4	100.0
Vulnerable	d	d	60.9	12.3	8.4	5.3	2.5	100.0

d = Data suppressed due to insufficient observations. \* = Standard error is between 25 percent and 50 percent of the estimate.

1/ Small family farms have sales less than \$250,000. Large family farms have sales between \$250,000 and \$499,999. Very large family farms have sales of \$500,000 or more.

2/ Limited-resource farms have household income less than \$20,000, farm assets less than \$150,000 and sales less than \$100,000.

3/ Small farms other than limited-resource farms are classified according to the major occupation of their operators. Operators of retirement farms are retired. Operators of residential/lifestyle farms report a nonfarm occupation. Operators of farming-occupation farms report farming as their major occupation. Farming-occupation farms are further divided into low-sales (sales less than \$100,000) and high-sales (sales between \$100,000 and \$249,999).

4/ Financial performance classification based on farm income and debt/asset ratio:

Favorable: positive net farm income and debt/asset ratio no more than 40 percent;

Marginal income: negative net farm income and debt/asset ratio no more than 40 percent;

Marginal solvency: positive net farm income and debt/asset ratio more than 40 percent;

Vulnerable: negative net farm income and debt/asset ratio more than 40 percent.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.

farm operator households were in a favorable financial position in 1999, based solely on farm income. Over 64 percent of small family farms managed by operators that identify farming as their primary occupation were classified as favorable, as were over 71 percent of retirement farms.

While about 4 percent of all farm were classified as vulnerable at the end of 1999, more than 6 percent of large family farms were considered in this class, as were about 6 percent of residential/lifestyle farms. Since over 43 percent of all farms are residential/lifestyle farms, these farms accounted for almost 61 percent of all vulnerable farm operations. About 30 percent of all farms are small primary-occupation-farming farms. About 3 percent of these were identified as vulnerable, and this group accounted for almost 21 percent of all farms classified as vulnerable.

Over 38 percent of all limited resource farms were classified as being in a marginal-income position, as were 34 percent of residential/lifestyle farms. This is to be expected, because many lower sales farms do not produce profits in their farming activities. However, residential/lifestyle farms received

average off-farm income of almost \$88,000, suggesting that their financial well-being was not dependent on farm income (table 8). In contrast, limited resource farms received, on average, about \$13,000 in off-farm income.

### Standard Financial Performance Measures Vary by Typology

Standard farm financial performance measures, as recommended by the Farm Financial Standards Council, reveal differences in farm viability of farming units in the various typology classes (table 9). More than 57 percent of all 1999 farms were classified as retirement or residential/lifestyle. On average, these operations were able to generate positive net farm income in 1999, but they did not generate farm income sufficient to provide for positive returns to operators' labor and management, as evidenced by modestly negative returns to assets and equity.

While retirement farms appeared to exercise fairly tight cost control measures, on average, farm income on both retirement and residential/lifestyle farms fell short of covering operating expenses. However, operators of these farms



reported substantial off-farm household income, and their motivation in farming may be enjoyment of rural amenities, not maximization of returns to the labor used in their farming operations. Even though retirement and residential/lifestyle farms employed substantial assets and generated positive net earnings from their farming activities, they relied on off-farm income to meet living expenses and service farm debt obligations.

Generating returns to operators' labor and management is likely to be more critical to the 37 percent of farms that are classified as limited resource and small primary-occupation-farming farms. These operators report a greater commitment of time and labor to farming, and less income from off-farm sources. Among these typology classes, average net farm income was negative only for limited resource operations, but farms with sales under \$100,000 reported 1999 farm income insufficient to provide adequate returns to operators'

Table 8--Selected financial performance measures, by farm typology group, 1999

Table 5 Selected financial performance measures, by farm typology group, 1999								
Item	Small family farms 1/					Large family farms 1/	Very large family farms 1/	All farms
	Limited-resource 2/	Retirement 3/	Residential/lifestyle 3/	Farming-occupation 3/				
				Lower sales	Higher sales			
Dollars per farm								
Balance sheet:								
Total assets	84,102	347,772	299,855	511,853	810,706	1,230,336	2,212,028	468,385
Total liabilities	6,613	7,002	28,389	32,531	109,313	205,558	442,799	49,322
Net worth	77,489	340,770	271,465	479,321	701,392	1,024,778	1,769,229	419,063
Working capital 4/	3,479	17,201	9,534	30,073	61,035	97,672	217,471	27,866
Net farm income	** -843	4,417	2,066	5,429	33,732	64,731	220,470	13,753
Dollars per household								
Income measures:								
Total household income	9,534	40,643	83,788	39,764	53,322	85,685	201,206	64,347
Off-farm income	13,114	41,991	87,796	39,892	26,621	34,598	35,572	57,988
Family living expenses	5,922	12,144	37,230	17,609	12,998	27,638	32,905	25,073
Percent								
Profitability measures:								
Return on assets 5/	-12.2	-1.2	-1.6	-2.5	*0.7	3.2	8.7	**0.2
Return on equity 6/	-14.2	-1.3	-2.7	-3.2	*-0.6	*1.8	8.4	-0.8
Operating profit margin 7/	-96.3	-25.2	-24.7	-29.9	*3.5	11.8	18.8	**1.4
Solvency measure:								
Debt/asset ratio 8/	7.8	2.0	9.5	6.4	13.5	16.7	20.0	10.5
Ratio								
Repayment capacity measure:								
Debt coverage ratio 9/	* 1.38	5.13	1.41	2.55	3.40	3.28	4.81	3.07
Financial efficiency measures:								
Asset turnover ratio 10/	0.13	0.05	0.07	0.08	0.21	0.27	0.46	0.16
Operating expense ratio 11/	1.24	1.05	1.18	0.90	0.74	0.74	0.73	0.80
Economic cost/output ratio 12/	2.03	1.29	1.37	1.37	1.03	0.94	0.85	1.05

\* = Standard error is between 25 percent and 50 percent of the estimate. \*\* = Standard error is between 50 percent and 75 percent of the estimate.

1/ Small family farms have sales less than \$250,000. Large family farms have sales between \$250,000 and \$499,999. Very large family farms have sales of \$500,000 or more.

2/ Limited-resource farms have household income less than \$20,000, farm assets less than \$150,000 and sales less than \$100,000.

3/ Small farms other than limited-resource farms are classified according to the major occupation of their operators. Operators of retirement farms are retired. Operators of residential/lifestyle farms report a nonfarm occupation. Operators of farming-occupation farms report farming as their major occupation. Farming-occupation farms are further divided into low-sales (sales less than \$100,000) and high-sales (sales between \$100,000 and \$249,999).

4/ Working capital = current assets - current liabilities.

5/ Return on assets = (net farm income + interest - charge for unpaid operators = labor and management) / total assets.

6/ Return on equity = (net farm income - charge for unpaid operators = labor and management) / net worth.

7/ Operating profit margin = (net farm income + interest - charge for unpaid operators = labor and management) / gross farm income.

8/ Debt / asset ratio = total liabilities / total assets.

9/ Debt coverage ratio = (net farm income + off-farm income + depreciation + interest - estimated income tax expense - family living expenses) / (scheduled principal and interest payments).

10/ Asset turnover ratio = gross farm income / total assets.

11/ Operating expense ratio = total cash operating expenses / gross cash farm income.

12/ Economic cost / Output ratio = (total cash operating expenses + benefits + charge for unpaid operators = labor and management) / gross farm income.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.



Table 9--Debt repayment capacity utilization calculation, by farm typology group, 1999

Table 3 Debt repayment capacity utilization calculation, by farm typology group, 1999								
Item	Small family farms 1/					Large family farms 1/	Very large family farms 1/	All farms
	Limited-resource 2/	Retire-ment 3/	Residential/ lifestyle 3/	Farming-occupation 3/				
				Lower sales	Higher sales			
Number								
Number of farms	126,920	297,566	931,561	480,441	175,370	77,314	58,403	2,147,576
Number of farms with debt	29,680	47,692	406,349	195,544	126,287	58,895	45,458	908,907
Percent								
Share of farms with debt	23.4	16.0	43.6	40.5	72.0	76.2	77.8	42.3
Dollars per farm								
Net farm income	**843	4,417	2,066	5,429	33,732	64,731	220,470	13,753
Income for debt coverage 4/	8,552	30,615	38,915	28,952	63,312	95,289	251,641	43,549
Principal/interest payments	1,056	1,101	4,084	4,665	15,871	32,134	62,354	7,178
Debt coverage margin 5/	7,496	29,514	34,831	24,287	47,442	63,156	189,287	36,370
Maximum loan payment 6/	9,972	28,482	41,714	30,041	55,699	90,000	219,640	43,112
Maximum feasible debt 7/	51,992	149,795	218,319	160,153	295,171	475,722	1,151,981	226,915
Total liabilities	6,613	7,002	28,389	32,531	109,313	205,558	442,799	49,322
Percent								
Debt repayment capacity utilization (DRCU) 8/	12.7	4.7	13.0	20.3	37.0	43.2	38.4	21.7
Number								
Number with DRCU greater than 1.2	20,409	23,227	126,098	64,339	29,708	16,820	10,873	291,475
Percent								
Farms with DRCU greater than 1.2:								
Share of all farms	16.1	7.8	13.5	13.4	16.9	21.8	18.6	13.6
Share of farms with debt	*68.8	48.7	31.0	33.1	23.5	28.6	23.9	32.1
Share of debt	*47.3	*25.5	26.1	32.6	35.7	40.0	30.8	32.2

\* = Standard error is between 25 percent and 50 percent of the estimate. \*\* = Standard error is between 50 percent and 75 percent of the estimate.

1/ Small family farms have sales less than \$250,000. Large family farms have sales between \$250,000 and \$499,999. Very large family farms have sales of \$500,000 or more.

2/ Limited-resource farms have household income less than \$20,000, farm assets less than \$150,000 and sales less than \$100,000.

3/ Small farms other than limited-resource farms are classified according to the major occupation of their operators. Operators of retirement farms are retired. Operators of residential/lifestyle farms report a nonfarm occupation. Operators of farming-occupation farms report farming as their major occupation. Farming-occupation farms are further divided into low-sales (sales less than \$100,000) and high-sales (sales between \$100,000 and \$249,999).

4/ Income for debt coverage = net farm income + off-farm income + depreciation + interest - estimated income tax expense - family living expenses.

5/ Debt coverage margin = income for debt coverage - principal and interest payments.

6/ Maximum loan payment is that which could be made while maintaining a debt coverage margin of 1.25. Maximum loan payment = 80 percent of income for debt coverage.

7/ Maximum feasible debt is the maximum of 1) that loan which could be repaid with the maximum loan payment at 1998 ARMS reported average interest rate over a 7-year loan term, 2) 10 percent of net worth, or 3) \$100.

8/ Debt repayment capacity utilization = total liabilities / maximum feasible debt. DRCU measures the extent to which the farm operation is utilizing its capacity to service debt from current income.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.

labor and management. These farming units generated negative operating profit margins, did not cover the full economic costs of production, and reported negative returns to assets and equity. Limited resource farms generally operate with small asset bases, use little debt financing, and generate fairly low levels of income. Moreover, relatively low levels of working capital suggest that these operations have little cushion for financial emergencies. While the debt/asset ratio for these farms is slightly below the average for all

farms, they are generally too small to operate efficiently, but, on average, total household income is adequate to cover their relatively low family living expenses.

In 1999, operators indicating farming as their primary occupation were likely to manage farms that, on average, generated sufficient income to cover operating expenses. However, these operations did not produce enough revenue to meet the full economic costs of production. These farms



reported higher average working capital and household off-farm income to contribute to family living expenses and to augment farm income shortfalls.

Farms with sales of \$250,000 or more appear to be viable self-sustaining economic units. They own assets averaging more than \$1,000,000, have manageable debt levels, generate sufficient farm income to cover operating expenses and economic costs, and record reasonable rates of return on assets and equity. While over 26 percent of very large farms report debt/asset ratios exceeding 40 percent, this class generates average operating profit margins of almost 19 percent. While farm households in these classes received average 1999 off-farm income of almost \$36,000, the majority of their income is from farm sources.

### ***Farm Typology Groups Use Differing Levels of Debt Repayment Capacity***

Data collected in the 1999 ARMS provide for a more detailed analysis of debt repayment capacity utilization (DRCU), allowing the influence of off-farm income, family withdrawals (living expenses), and payment of estimated income taxes to be included in the calculation of income available for debt coverage. The maximum principal and interest payment that a farmer could make based on that income, and the maximum loan that the payment could service, can be estimated more precisely for each ARMS respondent. Comparison of actual total liabilities with maximum debt supportable by income from all sources gives a more comprehensive measure of each respondent's individual DRCU. This analysis does not include any nonfarm debt owed by the farm operator's household.

Including the contribution of off-farm income to farm debt service, DRCU averaged 31 percent for all farms in 1999. Retirement farms owed less than 5 percent of the debt that they could service with current income from all sources, while DRCU for limited-resource operations averaged almost 13 percent. DRCU for farms reporting the operator's primary

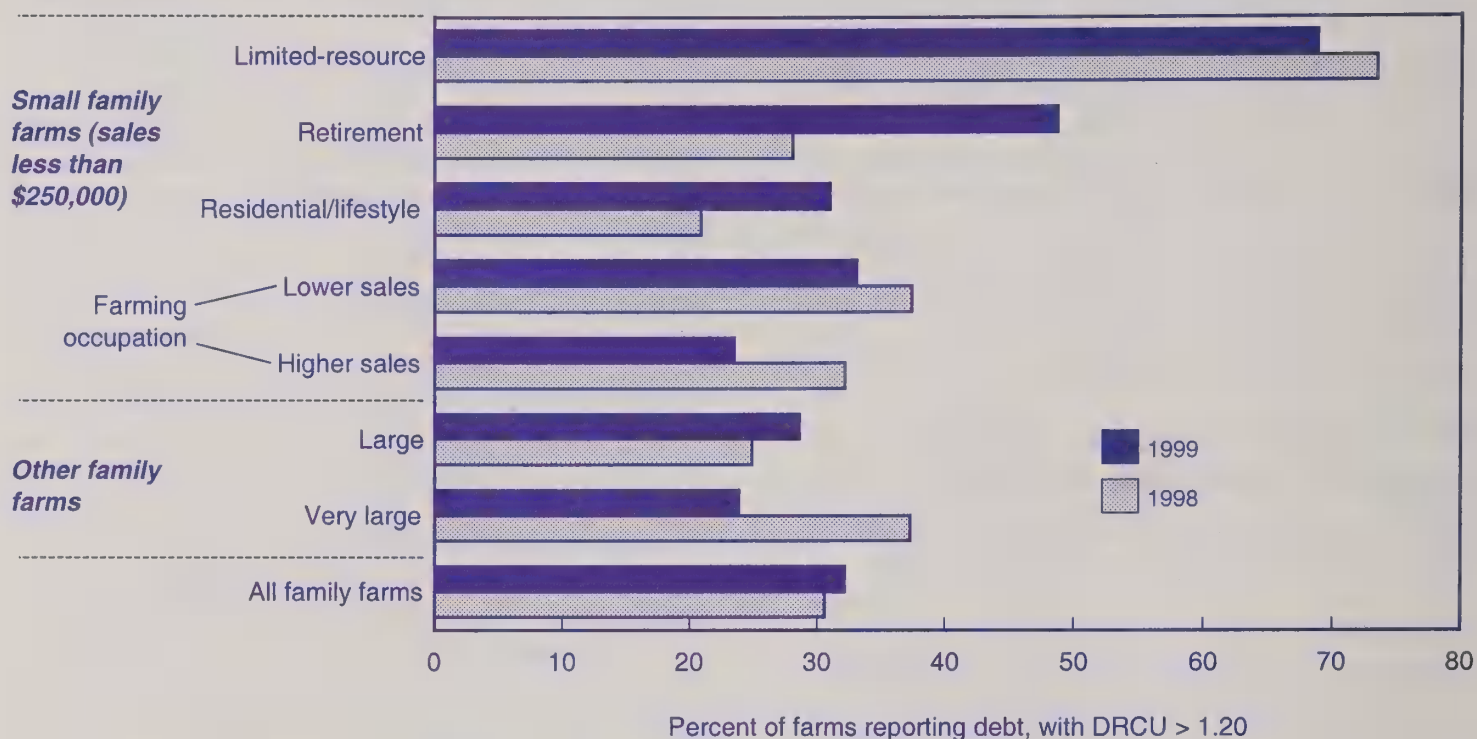
occupation as farming averaged less than 37 percent, and that of very large farms averaged less than 38 percent.

Farms can often meet short-term income shortfalls with savings and through orderly liquidation of assets. However, if DRCU exceeds 1.2 (meaning that the operation owes 20 percent more debt than can be serviced with current income), the operation may experience difficulty in meeting debt service obligations. About 32 percent of the operations reporting debt outstanding at the end of 1999 had DRCU greater than 1.2, and these farms also owed about 32 percent of all debt. Almost 69 percent of indebted limited-resource farms were in this high-debt group, but these farms owed about 47 percent of all debt reported by this typology class. Lower sales small primary-occupation-farming operations had a slightly higher share of farms in the high DRCU class, while higher sales small farms, and large and very large farms had a slightly lower share of farms in this group.

Comparison of 1998 and 1999 ARMS data indicates that the number of family farms in the high DRCU group rose slightly in 1999 (fig. 17), and the percentage of total farm debt owed by high DRCU operations (fig. 18) declined. These results suggest that, while the number of farms with high DRCU has not decreased substantially, these operations are, on average, reducing their outstanding debt balances. Results for the higher sales primary-occupation-farming group indicated that, while the percent of indebted farms with DRCU > 1.20 declined from 32 percent in 1998 to less than 23 percent in 1999, the share of debt held by these high DRCU operations declined from 52 percent of debt to less than 36 percent. Conversely, among retirement farms the number of high DRCU farms increased from 28 percent of indebted farms in 1998 to almost 49 percent in 1999, but the share of debt owed by these operations fell from 48 percent in 1998 to less than 26 percent in 1999. These results suggest that relatively low 1999 commodity prices had not, through the end of the year, hurt either the financial performance of farm operations or their ability to service debt.

Figure 17

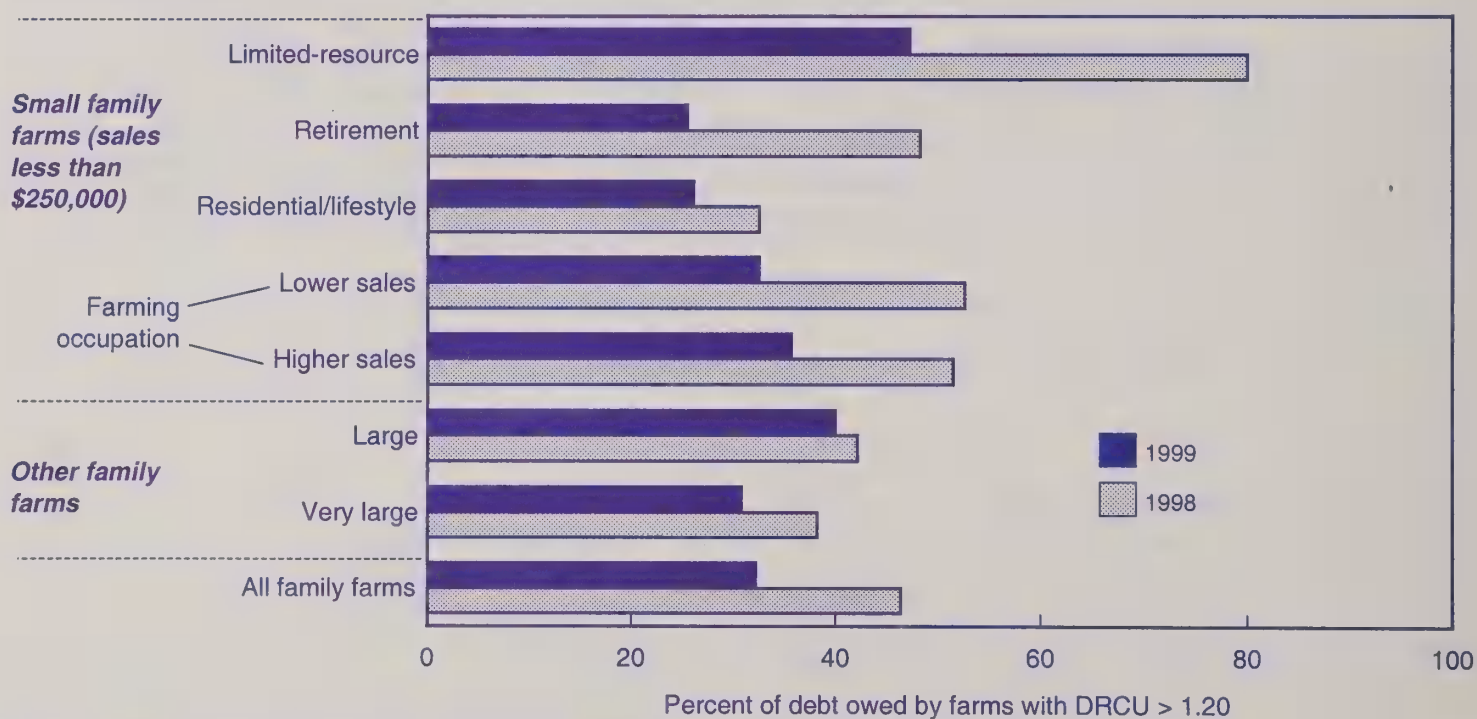
**The share of indebted farms with potential repayment problems (DRCU > 1.20) rose slightly during 1999. ....**



Source: 1999 Agricultural Resource Management Study, ERS, USDA.

Figure 18

**.....but the share of debt owed by operations with (DRCU > 1.20) declined for all typology classifications**



Source: 1999 Agricultural Resource Management Study, ERS, USDA.



## Production Costs Changed Little in 1999, But Lower Commodity Prices Cut Most Returns

*Input costs were similar between 1998 and 1999, while crop prices were significantly lower. Livestock producers paid less for feed, but hog and milk prices were also down.*

Aggregate prices paid for farm production inputs were virtually unchanged between 1998 and 1999, but varied for individual items. Average fuel prices rose about 11 percent, although much of this increase was after most tillage and planting operations for 1999 were completed. Feeder livestock prices were up about 8 percent while agricultural wage rates were 5 percent higher. Offsetting these were a 9-percent decline in feed prices and 6-percent lower fertilizer prices.

Crop prices dropped significantly between 1998 and 1999 while crop yields were similar in both years. Average feed grain and hay prices were down about 14 percent, while cotton prices fell 21 percent. With stable input prices and crop yields, lower output prices caused net returns (excluding any receipts of Government payments) to fall for nearly all major field crops. Livestock producers paid less for feed, but also saw prices for barrows and gilts fall 12 percent while milk prices dropped 7 percent, causing returns to fall for these producers as well. However, returns improved among feeder pig and feeder cattle producers as average feeder pig prices surged nearly 30 percent higher and feeder cattle prices rose 6 percent.

### Low Commodity Prices in 1999

With relatively stable input costs and yields for most commodities, the major determinant of commodity returns in 1999 was the substantially lower commodity prices. Returns to corn, soybeans, cotton, and wheat at various prices illustrate this situation (table 10). Market prices for these crops in 1999 were substantially below the 5-year average, running more than 20 percent less for these commodities and continuing their downward trend from highs in 1996. Both the 1999 harvest and marketing year average (MYA) prices were also at or below the 1999 loan rate, providing a strong incentive for producers to utilize features of the marketing loan program. Loan deficiency payments were substantially higher for these crops in 1999 than in previous years.

Soybean and cotton producers benefited the most from the marketing loan program with returns to soybeans about \$20-\$30 per acre higher than on the market, and returns to cotton about \$28-\$40 higher. Also, relatively higher returns at the loan rate for soybeans versus other crops suggests an incentive to plant more soybeans on operations where these crops could be substituted in the crop mix.

### The Cost and Return Accounts

The cost and return accounts are the latest in an annual series of estimates dating back to 1975 (see <http://www.ers.usda.gov/briefing/farmincome/data.htm>). The annual estimates are based on producer surveys conducted every 5-8 years for each commodity and updated each year with estimates of annual price, acreage, and production changes. This essentially fixes the technology that underlies the 1998 and 1999 accounts to that used in the most recent survey year. The most recent survey year for each commodity is 1998 for hogs and wheat; 1997 for soybeans and cotton; 1996 for corn, cow-calf, and flue-cured tobacco; 1995 for grain sorghum, peanuts, and burley tobacco; 1994 for oats; 1993 for milk; and 1992 for rice, sugar beets, and barley. Estimates made in the survey year should be regarded as the most reliable because they reflect both prices and technologies actually used on the commodity. The reliability of estimates in nonsurvey years likely varies for each commodity by the degree of technical and structural change that has occurred since the last survey.

The theoretical basis and accounting methods used for estimating the costs and returns are being revised to conform with standards recommended by the American Agricultural Economics Association (AAEA) Task Force on Commodity Costs and Returns. Accounts published according to the recommendations were first presented last year for corn, soybeans, cotton, peanuts, grain sorghum, and cow-calf. This year the accounts for hogs and wheat have been revised. In addition, accounts published in the new format are presented using ERS' Farm Resource Regions, which provide a consistent regional delineation across the commodities. Accounts for the other commodities will be converted to comply with the Task Force recommendations and new regional delineation as they are surveyed in the future. Surveys of rice, sugar beet, and milk producers are being developed for 2000.



Table 10--Returns above operating costs at various prices, 1999

Commodity	Unit	Price			
		1999 Loan rate	1999 Harvest	1999 MYA 1/	5-year MYA
Corn	\$/bu.	1.89	1.69	1.90	2.45
Soybeans	\$/bu.	5.26	4.45	4.75	6.04
Wheat	\$/bu.	2.58	2.48	2.55	3.49
Cotton	\$/lb.	0.52	0.47	0.45	0.63

Returns above operating costs 2/					
Dollars per acre					
Corn	135 bu.	101.66	74.66	103.01	176.72
Soybeans	40 bu.	134.07	101.67	113.67	165.43
Wheat	38 bu.	43.03	39.23	41.89	77.46
Cotton	584 lbs.	58.95	30.22	17.96	125.65

1/ Agricultural Prices – 1999 Summary. NASS/USDA.

2/ Marketing and storage costs were not deducted.

### Cost and Returns Highlights for Crops

The value of **corn** production fell about \$33 per acre as several consecutive years of high corn yields, along with plentiful corn stocks, prompted a decline of 22 cents per bushel in the 1999 harvest-period price (appendix table 5). Operating costs per planted corn acre in 1999 totaled \$154, about the same as in 1998. With lower prices and little change in costs, returns above operating costs declined \$31 per acre. The total cost of corn production exceeded the harvest-period value of corn production by \$130 per planted acre in 1999, a rise of \$35 per acre from 1998. Breakeven analysis reveals that \$1.14 per bushel was needed in 1999 to cover corn operating costs, while \$2.67 per bushel was needed to cover total corn production costs.

Returns above corn operating costs were positive in all regions, but total costs were not covered in any region. Only in the Southern Seaboard were 1999 net returns from corn production higher than in 1998. Although producers in the Southern Seaboard suffered from droughts in both 1998 and 1999, their 1999 corn yields were up 19 bushels per acre, but still below yields in 1996 and 1997. Producers in the Prairie Gateway had the smallest decline in net returns per acre due to a small increase in 1999 corn yields, while the Eastern Upland yield declined by 17 bushels per acre, pushing returns down the most among regions.

**Soybean** yields were down about 8 percent nationwide from high yields in both 1997 and 1998 due to drier summer weather (appendix table 6). Most of the reduction occurred in the Heartland, Eastern Uplands, and Southern Seaboard regions. Only the Mississippi Portal, which has the lowest average yield among all of the regions, had no change in yield. A build-up of stocks in 1998 and 1999 contributed to lower prices. In 1999, average soybean prices reached the lowest level since the mid-1980's. The combination of lower yields and sharply lower harvest-period prices reduced the 1999 estimate of gross value of production by 37 percent from 1997, and 21 percent from 1998.

A modest decline in operating costs in 1999 was substantially outweighed by the huge drop in soybean prices so that returns above operating costs fell 50 percent from 1997, and 30 percent from 1998. Total costs increased slightly in 1999, reflecting higher costs for land and labor. The value of production at harvest less total costs dropped from about -\$24 per acre in 1998 to -\$73 in 1999. This compares with a return of about \$33 per acre in 1997. A price of \$1.91 per bushel was needed to breakeven on operating costs in 1999, while \$6.23 soybeans were needed to cover total costs.

Low wheat prices encouraged producers to reduce **wheat** acreage in 1999 by 5 percent from 1998, and 11 percent from 1997 (appendix table 7). The 1999 harvest-period wheat price was down 20 cents per bushel, about 7 percent, from 1998, and was substantially lower than in earlier years. Lower wheat prices, and a decline in the average yield, dropped the value of wheat production by 14 percent. Operating costs fell 4 percent to \$55 per acre due to a decline in seed, chemical, and fertilizer expenses. However, total cost increased by 3 percent to \$171 per acre due to higher overhead expenses. This left average U.S. returns over operating costs of \$43.27, down 24 percent from the previous year.

Among the wheat regions, returns over operating costs varied from \$13.51 per acre in the Southern Seaboard to \$116.66 in the Northern Crescent. Relatively higher grain yields and the high value of straw contributed to more value from the wheat crop in the Northern Crescent. Wheat price at harvest time covered the operating costs in every region. The breakeven price for operating costs averaged \$1.43, ranging from \$1.10 per bushel in the Northern Crescent to \$2.08 in the Southern Seaboard. To cover total costs, farmers needed a price ranging from \$3.15 in the Northern Crescent to \$4.96 per bushel in the Northern Great Plains, compared with regional wheat prices ranging from about \$2.00 to \$2.84 per bushel.



Area planted to **cotton** rose almost 1.5 million acres above 1998 levels and 1 million acres above 1997. Total lint production, while below 1997 levels, was 3 million bales higher. Growers in Arizona, California, Louisiana, and Missouri had large yield increases over 1998. Pima production was up 57 percent in 1999, the largest crop on record. The U.S. average cotton yield was up more than 20 percent from 1998 to 1999 (appendix table 8).

Large stocks worldwide coupled with rising production caused lint prices to fall substantially during 1999, exhausting step 2 funding. Step 2 funding was re-authorized to shore up domestic prices in October. Growers saw the gross value of their crop fall by about 12 percent as a result of lower prices. Cotton production costs were up about 6 percent from 1998 to 1999, due mainly to the additional costs of ginning the higher cotton yields. Although returns above total costs were negative in all regions, growers in all regions were able to cover their operating costs. The breakeven price to cover operating costs was 42 cents per pound and 84 cents for total costs. The U.S. average harvest-period lint price was 47 cents per pound in 1999.

Costs and returns for other major U.S. field crops tended to follow the same pattern as those above (appendix tables 9-15).

### ***Cost and Return Highlights for Livestock***

U.S. **milk** production rose more than 3 percent in 1999, yet milk prices were at a record high in 1998 and well above the decade's average in 1999. However, milk prices dropped sharply late in 1999. The gross value of milk production in 1999 fell about 7 percent from a year earlier (appendix table 16). Lower concentrate feed prices and ample supplies of alfalfa hay were primarily responsible for a 10-percent drop in total feed costs and a 5-percent drop in total cash expenses. The net result being that 1999 U.S. average returns over cash expenses declined about 10 percent from 1998; from \$3.42 to \$3.10 per hundredweight of milk sold. Average returns over cash expenses also declined in four out of the six regions. Only in the Southeast and Southern Plains regions did total feed costs and cash expenses drop enough for returns to increase, about 6 percent and 10 percent, respectively.

Market **hog** (barrows and gilts) prices in 1998 were as high as \$43 per cwt at mid-year, but fell to around \$15 by year's end. Hog prices improved from this record low, but stayed only in the mid-\$30 per cwt range throughout 1999. In contrast, feeder pig prices improved from a low near \$50 per cwt at the end of 1998 to average more than \$75 during

1999. Thus, while the value of market hogs was down about 12 percent between 1998 and 1999, feeder pig prices moved nearly 30 percent higher. Hog producers benefited from lower feed costs in 1999 as corn prices fell below \$2.00 per bushel and the price of soybean meal was nearly 15 percent lower (appendix table 17). Despite lower feed costs, average returns to hog production were down in 1999 among all U.S. producers and among producers in most regions.

Lower market hog prices were offset by lower feed prices so that returns to **farrow-to-finish** production were almost identical in both 1998 to 1999 among producers in all regions (appendix table 18). Feed costs were down 14 percent among all farrow-to-finish producers. With annual average market hog prices in the low- to mid-\$30 range, most producers were able to cover feed and other operating costs during 1999, but as in 1998, few farrow-to-finish operations covered total costs. However, higher feeder pig prices and lower feed costs in 1999 dramatically improved returns among **farrow-to-feeder pig** producers from 1998 (appendix table 19). Total costs of feeder pig production were significantly lower in the Southern Seaboard than in other regions because these very large operations were considerably more cost efficient with regard to labor and capital resources. In contrast, the combination of lower market hog prices and higher feeder pigs prices sent returns among **feeder pig-to-finish** producers much lower in 1999 (appendix table 20). With market hog prices in the mid-\$30 range, many hog finishers were not able to cover operating costs in 1999. Among the regions, costs were lower in the southern regions, particularly in the Southern Seaboard where lower overhead costs for labor and capital are indicative of the much larger operations.

Cow-calf producers benefited in 1999 from the strongest cattle prices since 1993. With large grain supplies and low grain prices, feedlots were able to offer top dollar for cattle and maintain favorable gain costs. Fed cattle prices were up \$4 per cwt from a year earlier, while yearling feeder cattle prices rose nearly \$5 per cwt in 1999 (appendix table 21). The number of heifers on feed was up 11 percent from 1998, while the number of steers was up 6 percent.

Drought created poor forage conditions in much of the south, and some producers had much of their potential profits evaporate in higher forage costs. In many areas, producers were forced to reduce herd inventories as forage supplies declined. In some areas, ponds were extremely low. Moisture levels must improve before cattle inventories can begin to stabilize and benefit from continued favorable grain prices.



## Spotlight Commodity: Hogs

Market hog prices were below \$40 per hundredweight (cwt) throughout nearly all of 1998 and 1999. During this time, more than 13,000 small hog operations (less than 500 head), about 15 percent of small operations, went out of business (NASS, *Hogs and Pigs*, Dec. 1999). This spotlight plots the cumulative distribution of unit production costs by size groups in order to examine the relationship between hog costs-of-production and size of operation. Operating and ownership costs (capital recovery plus taxes and insurance) indicate costs that must be paid to justify investing in hog production facilities and remaining in business over their useful life (10-20 years).

- ◆ Average cost declined across the size groups from \$55.50 among small operations to \$38.11 among industrial-scale operations.
- ◆ Ownership costs were a much larger share of total costs on small operations than on larger operations because large operations were able to spread fixed costs over more units of production.
- ◆ With hog prices below \$40 per cwt during much of 1998 and 1999, more than 80 percent of small operations were unable to cover total costs.
- ◆ The financial difficulties presented by low hog prices were not confined to small operations, but their sheer numbers and greater variation in costs meant that as a group they were much more severely affected by the extended period of low prices.

Figure 19

### Small operations (less than 500 head)

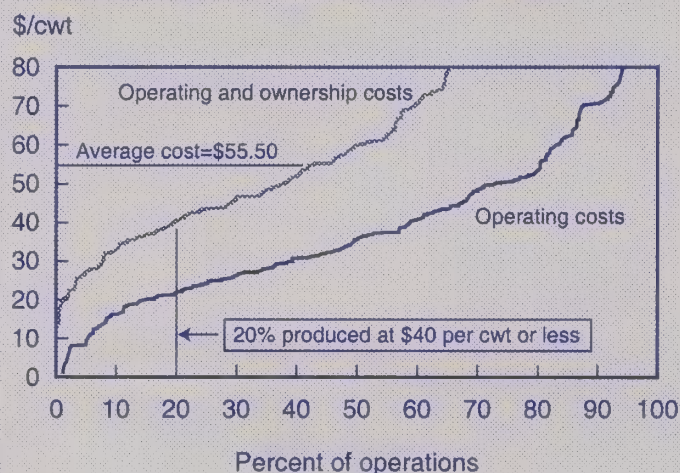


Figure 20

### Medium operations (500-1,999 head)

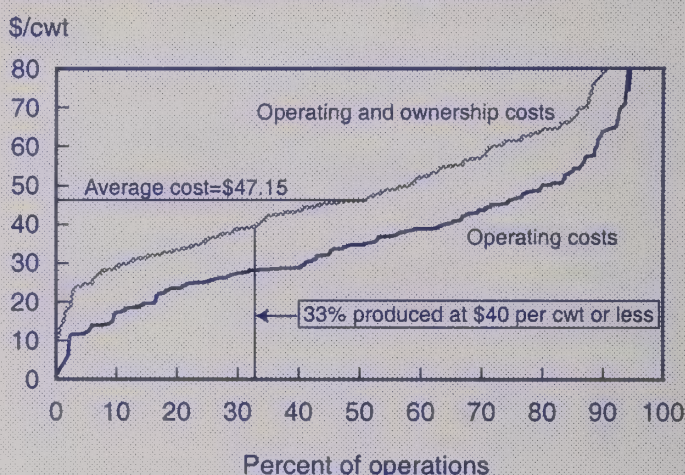


Figure 21

### Large operations (2,000-4,999 head)

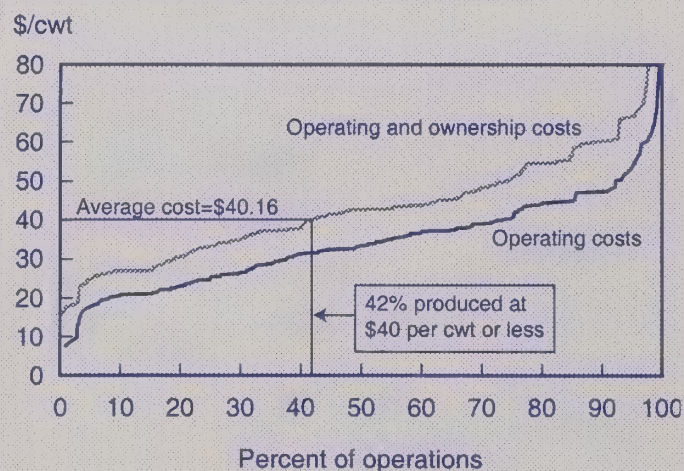
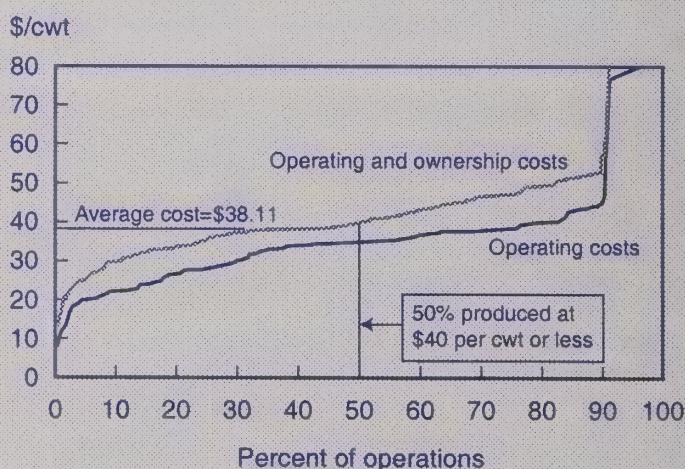


Figure 22

### Industrial-scale operations (5,000 head or more)





## Sixty-Eight Percent of Farm Businesses Entered 2000 in a Financially Favorable Position

*In USDA's most recent financial survey, farmers and ranchers reported the highest share of operations in a favorable situation since 1992.*

Agriculture is a diverse sector represented by a complex mix of business enterprises. Results presented in previous sections of this report have applied to the U.S. farm sector and its 2,187,000 farms and ranches. The following discussion relates to the 511,619 operations that reported gross agricultural sales of \$50,000 or more in 1999. These farm businesses generate the majority of economic activity in the sector. The Economic Research Service, in collaboration with USDA's National Agricultural Statistics Service, conducts an annual survey of farm and household finances. Since 1986, results of this survey have been used to establish estimates of farm financial position, considering both net income and the degree of indebtedness. Results reported here are designed to highlight the diversity of financial problems and characterize their seriousness based on a comprehensive review and audit of financial statements prepared from farms responding to the survey. The most recent survey results are for calendar year 1999.

### Overall Financial Performance

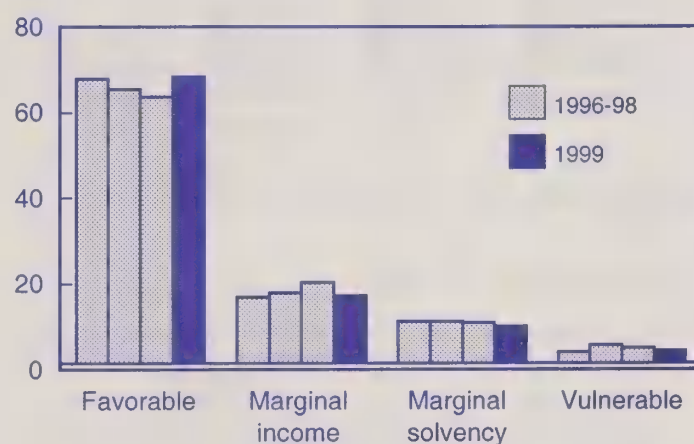
On January 1, 2000, USDA classified 4.5 percent of farm businesses as being in a vulnerable financial position based on their combined net farm income and debt/asset ratios (fig. 23). The share of vulnerable farms was similar to a year earlier when 5.1 percent were considered financially vulnerable. The share of farm businesses considered to be in a favorable financial position increased by 4 percentage points reaching 68.4 percent, the highest share of financially favorable farms since 1992.

From a regional perspective, the largest increase in the share of favorable farm businesses occurred for farms located in the Eastern Uplands (13 percentage points), Northern Crescent (8 percentage points), and the Prairie Gateway (7 percentage points). The percentage declined in the Southern Seaboard region. Compared with other regions, the Mississippi Portal had the lowest proportion of farm businesses in a favorable financial position at 57 percent (fig. 24). The Basin and Range and Mississippi Portal regions began 2000 with the highest shares of financially vulnerable farm businesses; both at 7.4 percent. In the previous 2 years, the Prairie Gateway and Northern Great Plains regions were in this situation.

Figure 23

### Distribution of farm businesses by overall financial performance, 1996-99

Percent



Source: Agricultural Resource Management Study, ERS, USDA.

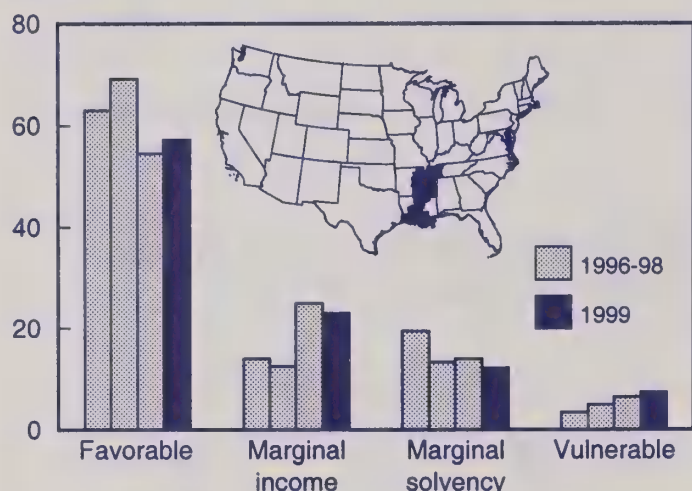
The largest increases in the proportion of financially favorable farms were exhibited by farm businesses specializing in the production of fruit and tree nuts (up 16 percentage points), vegetables (up 16 percentage points), and hogs (up 13 percentage points). Only 57 percent of hog farms were classified in a favorable financial position at the beginning of 2000, which was the lowest among farm types. In contrast, 83 percent of tobacco and 79 percent of dairy farms had favorable financial positions. Among farm types, poultry farms had the highest percentage of financially vulnerable farms at the beginning of 2000.

Older farm operators, in general, had higher shares of financially favorable and lower shares of financially vulnerable farms, compared with younger operator age classes. For most age classes, the share of operators with favorable financial performance increased in 1999 compared with 1998. A notable exception is the under-35 age class, where the share of farm businesses considered financially favorable declined by 3 percentage points.

Figure 24

### Distribution of farm businesses in the Mississippi Portal region by overall financial performance, 1996-99

Percent



Source: Agricultural Resource Management Study, ERS, USDA.

### Farm Business Income

The most comprehensive measure of farm business earnings, net farm income, was similar to 1998's average for all farm businesses at \$57,706 (table 11). Average gross cash income declined by more than \$20,000, the first such decline in several years. While livestock sales were similar with the previous year, crop sales fell by more than \$28,000. Higher government payments helped to offset some of the decline in crop sales, rising from \$14,694 per farm in 1998 to \$25,557 in 1999.

Farm costs were also lower in 1999, with cash expenses 6 percent below the 1998 average. Among variable cash expenses, outlays for seed, fertilizer, chemicals, and fuels were lower than in 1998. Lower interest expense and a decline in rent and lease expenses contributed to lower average fixed costs. The share of commercial farm businesses that had positive net farm income increased from 75 percent in 1998 to 78 percent in 1999, approaching 1996's high of 79 percent. The lowest percentage during the 1990's was for 1995 when 71.6 percent of farm businesses reported positive income.

Higher government payments were important to maintaining or in some cases improving average net farm income for cash grain, soybean, and cotton farms in 1999. Average net farm income declined for tobacco, vegetable, and nursery and greenhouse operations. Average net farm income declined between 1998 and 1999 in the Northern Crescent, Southern Seaboard, Fruitful Rim, and Basin and Range regions. At the beginning of 2000, only three regions had more than 25 percent of farm businesses with negative net

farm income: the Basin and Range (34 percent), the Mississippi Portal (30 percent), and the Southern Seaboard (28 percent).

Farms that specialized in the production of cattle had the highest proportion (30 percent) of farm businesses with negative net farm income in 1999. Other field crop (29 percent) and nursery and greenhouse (26 percent) were the other farm types with a relatively high share of farms with negative net farm income.

For all age classes, the share of farm operators with negative net income decreased from 1998. Compared to other age classes, operators under 35 had the highest share of farm businesses with positive net farm income (82 percent).

### Regional Outlook for 2000

Nationally, 2000 net cash income for farm businesses is forecast down 5 percent from 1999, and up 1 percent from the 1995-99 average (fig. 25). While the additional revenue from government payments improved the financial outlook for most U.S. farms, cash-flow problems may arise for farm businesses in the Fruitful Rim, Southern Seaboard, Basin and Range, and the Mississippi Portal regions, where at least one in four farm businesses are expected to have negative net cash income. In the Fruitful Rim, higher expenses for fuel and labor more than offset minor increases in receipts. In the Basin and Range region, higher fuel costs and lower crop receipts contribute to the expectation of lower average net cash income. The combination of low commodity prices and higher expenses (principally for fuel, labor, fertilizer and chemicals) intensifies cash-flow problems for the Mississippi Portal region.

### Commodity Specialization Outlook for 2000

Net cash income for cattle operations could rise 14 percent as higher cattle prices more than offset higher expenses. Hog farms will see the highest gains in average net cash income, forecast up 46 percent over 1999. Higher hog prices will overcome higher expenses. Dairy operations will face a cost price squeeze resulting from lower milk prices and higher expenses. Average incomes are expected to fall 12 percent this year. In 2000, farms specializing in tobacco/cotton/peanuts and vegetables/fruits/nursery and greenhouse (more than 50 percent of gross sales from these crops) will be affected more than any other major commodity farms, with average net cash income dropping 21 percent. Increases in fuel and labor expenses result in a 16-percent decline in average net cash income for general crop farms. For most farm types, the share of businesses with negative net cash income is expected to be higher than in 1998. The largest increase in farms with cash-flow problems is expected for tobacco, cotton, and peanuts.



Table 11--Financial data for farm businesses, 1996-99 1/

Item	1996	1997	1998	1999
Dollars per operation				
Income statement:				
Gross cash income	266,523	283,055	306,356	284,651
Livestock sales	92,240	102,472	105,060	104,745
Crop sales	140,221	136,068	142,400	113,971
Government payments	8,701	8,483	14,694	25,557
Other farm-related income	25,361	36,033	44,203	40,379
Total cash expenses	202,869	217,013	227,758	214,212
Net cash farm income	63,654	66,042	78,597	70,440
Net farm income	55,384	63,318	57,706	57,679
Balance sheet:				
Farm assets	909,095	923,585	1,078,557	1,067,523
Farm liabilities	154,752	157,466	170,728	153,331
Farm equity	754,343	766,118	907,829	914,191
Financial ratios:				
Current ratio	2.61	2.53	2.70	2.66
Working capital-to-expense ratio (%)	47.18	39.60	45.09	40.33
Debt/asset ratio	0.17	0.17	0.16	0.14
Rate of return on assets (%)	3.82	4.16	3.26	3.09
Rate of return on equity (%)	2.68	3.07	2.04	1.95
Operating profit margin (%)	12.32	12.70	11.25	11.07
Term debt coverage ratio	0.039	0.041	0.038	0.040
Asset turnover ratio	0.31	0.33	0.29	0.28
Operating expense ratio (%)	76.12	76.67	74.34	75.25
Economic cost-to-output ratio (%)	91.79	91.98	92.92	93.60

1/ Farm businesses are those operations with \$50,000 or more of gross farm sales.

Source: 1999 Agricultural Resource Management Study, ERS, USDA.

### Farm Business Balance Sheet

The financial position of commercial farms as measured by the balance sheet has slowly improved during the last 5 years. The share of highly leveraged farm business reached the lowest level since 1992 with only 3.6 percent of farms having a debt/asset ratio above 0.70 and only 10.9 percent with a debt/asset ratio between 0.40 and 0.70. Average liabilities of farms with gross sales of \$50,000 or more decreased by \$17,000 to \$153,332 reversing the previous year's increase. There was a small decline in total farm assets from 1998 to \$1,067,523. Most of the decline is attributable to lower values for current farm assets such as crop and livestock inventories. Average current assets declined \$24,000 in 1999. The average value of land and buildings increased by 3 percent from 1998 to \$716,730, while the average value of farm machinery fell by \$13,000, returning to levels of 1997. The Heartland and Northern Crescent were the only regions that had an increase in the value of total assets from 1998.

Despite lower asset values, the decline in farm debt helped to raise average farm business equity to \$914,191. Average farm business debt declined between 1998 and 1999 in every region except the Heartland. The decline was substantial (at least \$25,000 per farm) in most of the regions where debt fell. The exceptions were in the Northern Crescent and Prairie Gateway.

Average farm business debt declined between 1998 and 1999 for all farm types except those that specialized in the production of soybeans and hogs. Debt/asset ratios declined with operator age class, as older farmers are less leveraged than younger farmers. For example, only 4 percent of operators aged 65 and over had debt/asset ratios greater than 0.4, while 28 percent of operators less than 35 years old had debt/asset ratios greater than 0.4.

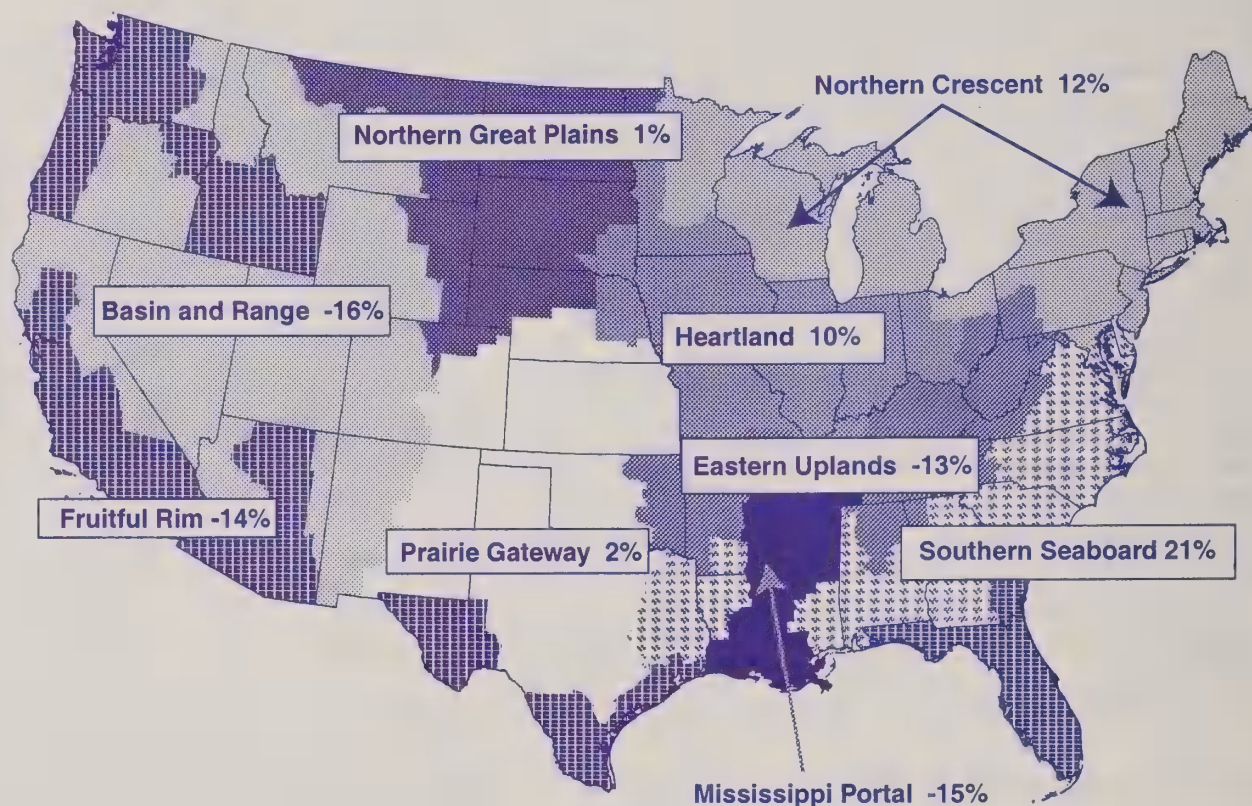
### Farm Business Financial Ratios

Financial ratios are used to measure key aspects of business performance such as liquidity, solvency, profitability, and financial efficiency. There was a small deterioration in 1999, on average, in farm business liquidity with a decrease in the current ratio and a drop in the amount of working capital relative to farm expenses. Solvency improved with a continuation of the recent trend of declining debt/asset ratios. The average debt/asset ratio of 0.14 in 1999 set a new decade low for farm businesses. Profitability as measured by the average rate of return on assets and equity was similar to 1998, but well below the highs of 1997.

There was a negative relationship between farm size and solvency with the largest farms (more than \$1,000,000 in gross sales) having an average debt/asset ratio of 0.20 compared with 0.09 for the smallest farm businesses in 1999. The opposite situation occurred for profitability, with the average rate of return on assets estimated at 10 percent for

Figure 25

# Projected change in average farm business net cash income, 1999-2000



the largest farms and -1 percent for the smallest. Average farm business profitability as measured by the rate of return on assets improved for every region in 1999 except the Northern Crescent, Southern Seaboard, Fruitful Rim, and Basin and Range. Farm business located in the Fruitful Rim and Prairie Gateway regions had the highest average rate of return on assets, each at 4.5 percent. Profitability rebounded to more normal values from the low levels experienced in 1998 for soybean, cotton, and hog farms. Financial efficiency as measured by the operating expense ratio ranged from 0.63 for poultry farms, the most financially efficient farm type, on average, to 0.85 for both vegetable and other livestock farms in 1999.

## Farm Business Debt Repayment Capacity

Government payments played an important role in maintaining the debt repayment ability of U.S. farm businesses in 1999. Average debt repayment capacity use (DRCU) by farms with sales of \$50,000 and more fell to 35 percent in 1999, down 3 percentage points from 1998 and identical to 1997's. With reduced incomes, maximum feasible debt fell to \$437,128 compared with \$450,000 for the previous 2 years. Reductions in debt outstanding more than made up for the deterioration in cash-flow and helped lower the

DRCU. In 1999, the share of farm businesses with extreme debt repayment problems (DRCU > 2.4) fell to 7.6 percent. At the other extreme, the proportion of farm business with debt repayment capacity utilization of 40 percent or less improved to 60.4 percent, one of the highest levels of the 1990's.

The Northern Crescent and Southern Seaboard were the only regions where average DRCU did not decline between 1998 and 1999. For 1999, the average DRCU ranged from 23 percent in the Mississippi Portal to 42 percent in the Heartland region.

Hog (22 percentage points) and soybean (13 percentage points) farms had the largest year-to-year decline in average debt repayment capacity utilization. Poultry farms had the highest average DRCU among farm types at 54 percent. The share of farm businesses with DRCU under 40 percent increase for all sizes of farms in 1999 except for the largest (\$1,000,000 or more in gross sales). The distribution of farms by debt repayment capacity improved dramatically in the Northern Great Plains and Prairie Gateway regions in 1999. The Basin and Range was the only region where the share of farms with extreme debt repayment problems (DRCU > 2.4) increased.



# List of Tables

## Text Tables

1. Income statement for U.S. farm sector, 1998-2000 .....	4
2. Value added to the U.S. economy by the agricultural sector via the production of goods and services, 1996-2000 .....	5
3. Direct government payments, 1996-2000 .....	6
4. Distribution of government payments among farms, 1999 .....	7
5. Program participation, average government payment, and payments contribution to farm income by program and farm typology, 1999 .....	10
6. Debt outstanding, by lender, December 31, selected years, 1984-2000 .....	17
7. Number of farms and financial performance classification, by farm typology group, 1999 .....	20
8. Selected financial performance measures, by farm typology group, 1999 .....	21
9. Debt repayment capacity utilization calculation, by farm typology group, 1999 .....	22
10. Returns above operating costs at various prices, 1999 .....	26
11. Financial data for farm businesses, 1996-99 .....	31

## Appendix Tables

1. Deriving farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology, 1995-2000 .....	34
2. Farm commodity cash receipts .....	35
3. Ranking of States for total net farm income, value of production per acre, and net farm income per acre and per operation, 1999 .....	36
4. Farm marketings, 1998 and 1999, government payments, 1999, and principal commodities, by State, 1999 .....	37
5. Corn production costs and returns, excluding direct government payments, 1998-99 .....	38
6. Soybean production costs and returns, 1998-99 .....	39
7. Wheat production costs and returns, 1998-99 .....	40
8. Cotton production costs and returns, 1998-99 .....	42
9. Barley production costs and returns, excluding direct Government payments, 1998-99 .....	43
10. Grain sorghum production costs and returns per planted acre, 1998-99 .....	44
11. Oats production costs and returns, excluding direct Government payments, 1998-99 .....	45
12. Rice production costs and returns, excluding direct Government payments, 1998-99 .....	46
13. Peanut production costs and returns, 1998-99 .....	47
14. Sugar beet production costs and returns, 1998-99 .....	48
15. U.S. tobacco production costs and returns, 1998-99 .....	49
16. Milk production costs and returns, per cwt sold, 1998-99 .....	50
17. Hog production costs and returns per hundredweight gain, 1998-99 .....	51
18. Farrow-to-finish production costs and returns per hundredweight gain, 1998-99 .....	52
19. Farrow-to-feeder pig production costs and returns per hundredweight gain, 1998-99 .....	53
20. Feeder pig-to-finish production costs and returns per hundredweight gain, 1998-99 .....	54
21. Cow-calf production costs and returns per bred cow, 1998-99 .....	55

Appendix table 1--Deriving farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology, 1995-20001/

	1995	1996	1997	1998	1999P	2000F
	Dollars per farm					
Net cash farm business income 2/	11,218	13,502	12,676	14,357	13,194	n.a.
Less depreciation 3/	6,795	6,906	6,578	7,409	7,027	n.a.
Less wages paid to operator 4/	522	531	513	637	499	n.a.
Less farmland rental income 5/	769	672	568	543	802	n.a.
Less adjusted farm business income due to other household(s) 6/	649	1,094	1,505	1,332	1,262	n.a.
	Dollars per farm operator household					
Equals adjusted farm business income	2,484	4,300	3,513	4,436	3,603	n.a.
Plus wages paid to operator	522	531	513	637	499	n.a.
Plus net income from farmland rental 7/	1,053	1,178	945	868	1,312	n.a.
Equals farm self-employment income	4,059	6,009	4,971	5,941	5,415	n.a.
Plus other farm-related earnings 8/	661	1,898	1,234	1,165	944	n.a.
Equals earnings of the operator household from farming activities	4,720	7,906	6,205	7,106	6,359	4,552
Plus earnings of the operator household from off-farm sources 9/	39,671	42,455	46,358	52,628	57,988	60,058
Equals average farm operator household income comparable to U.S. average household income, as measured by the CPS	44,392	50,361	52,562	59,734	64,347	64,610
	Dollars per U.S. household					
U.S. average household income 10/	44,938	47,123	49,692	51,855	n.a.	n.a.
	Percent					
Average farm operator household income as percent of U.S. average household income	98.8	106.9	105.8	115.2	n.a.	n.a.
Average operator household earnings from farming activities as percent of average operator household income	10.6	15.7	11.8	11.9	9.9	n.a.

P = Preliminary. F = forecast. n.a. = not available. \* = The relative standard error exceeds 25 percent, but is no more than 50 percent.

1/ This table derives farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Census Bureau, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income.

2/ A component of farm sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives and farms run by a hired manager. Includes the income of farms organized as proprietorships, partnerships, and family corporations.

3/ Consistent with the CPS definition of self-employment income, reported depreciation expenses are subtracted from net cash income. The ARMS collects farm business depreciation used for tax purposes.

4/ Wages paid to the operator are subtracted here because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income.

5/ Gross rental income is subtracted here because net rental income from the farm operation is added below to income received by the household.

6/ More than one household may have a claim on the income of a farm business. On average, 1.1 households share the income of a farm business.

7/ Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business.

8/ Wages paid to other operator household members by the farm business and net income from a farm business other than the one being surveyed. Beginning in 1996, also includes the value of commodities provided to household members for farm work.

9/ Wages, salaries, net income from nonfarm businesses, interest, dividends, transfer payments, etc.

10/ From the CPS.

Sources: U.S. Dept. of Agriculture, Economic Research Service, 1995 Farm Costs and Returns Survey (FCRS), and 1996, 1997, 1998, and 1999 Agricultural Resource Management Study (ARMS) for farm operator household data. U.S. Dept. of Commerce, Bureau of the Census, Current Population Survey (CPS), for U.S. average household income.

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Appendix table 2--Farm commodity cash receipts

	1996	1997	1998	1999	2000F
	\$ billion				
Crop receipts:					
Food grains	10.8	10.4	8.9	7.3	6.8
Wheat	9.2	8.7	7.1	5.7	5.6
Rice	1.6	1.7	1.7	1.6	1.2
Feed crops	27.2	27.0	22.7	19.8	20.7
Corn	20.7	20.0	17.2	14.9	15.7
Barley, oats, and sorghum	2.6	2.5	1.6	1.5	1.4
Hay	3.9	4.6	3.8	3.4	3.6
Oil crops	16.4	19.8	17.5	13.6	14.3
Soybeans	14.8	18.1	15.7	11.9	12.8
Peanuts	1.0	1.0	1.1	1.0	1.0
Cotton (lint and seed)	7.0	6.3	6.1	4.7	4.9
Tobacco	2.8	2.9	2.8	2.3	1.8
Fruits and nuts	11.9	13.1	12.2	13.0	11.5
Vegetables	14.4	14.7	15.1	15.2	15.9
All other crops	15.8	16.9	17.1	17.4	17.9
Greenhouse and nursery	10.8	11.9	12.0	12.2	12.8
Total crops	106.3	111.1	102.5	93.1	94.1
Livestock receipts:					
Red meats	44.2	49.7	43.3	45.6	51.9
Cattle and calves	31.0	36.0	33.4	36.5	40.2
Hogs	12.6	13.1	9.4	8.6	11.3
Sheep and lambs	0.6	0.6	0.5	0.5	0.5
Poultry and eggs	22.5	22.3	22.9	22.9	23.5
Broilers	13.9	14.2	15.1	15.1	15.6
Turkeys	3.1	2.9	2.7	2.8	2.9
Eggs	4.8	4.5	4.4	4.3	4.3
All dairy	22.8	20.9	24.1	23.2	21.3
Miscellaneous livestock	3.4	3.6	3.7	3.7	3.6
Total livestock	92.8	96.5	94.1	95.5	100.3
Total receipts	199.1	207.6	196.6	188.6	194.5

Appendix table 3--Ranking of States for total net farm income, value of production per acre, and net farm income per acre and per operation, 1999

Rank	Net farm income		Value of production 1/		Net farm income per acre		Net farm income per operation	
	State	\$1,000	State	Dollars per acre	State	Dollars per acre	State	Dollars per operation
1	California	4,986,433	Connecticut	1,462	Connecticut	376	Arizona	91,907
2	Texas	4,649,677	Delaware	1,447	Florida	271	Florida	62,563
3	Florida	2,815,328	New Jersey	1,026	North Carolina	211	California	56,027
4	Georgia	2,099,384	California	959	Delaware	208	Delaware	46,415
5	North Carolina	1,966,190	Rhode Island	938	Rhode Island	196	Georgia	41,988
6	Arkansas	1,830,918	North Carolina	937	Georgia	187	New Mexico	41,280
7	Nebraska	1,650,646	Maryland	834	California	179	Arkansas	37,751
8	Kansas	1,547,850	Massachusetts	810	Maryland	161	South Dakota	36,614
9	Iowa	1,450,176	Florida	701	Alabama	158	Idaho	35,664
10	Alabama	1,449,606	Pennsylvania	582	New Jersey	153	Connecticut	34,823
11	Minnesota	1,257,252	Georgia	549	Arkansas	125	Alaska	34,363
12	South Dakota	1,189,945	Alabama	466	Massachusetts	114	North Carolina	33,900
13	Oklahoma	1,149,787	Vermont	448	Vermont	105	Colorado	31,824
14	Illinois	1,007,007	Maine	447	South Carolina	87	Alabama	30,200
15	Mississippi	948,998	New York	440	Mississippi	83	Nebraska	30,012
16	Colorado	922,905	New Hampshire	432	Pennsylvania	81	Maryland	27,207
17	Wisconsin	878,986	Arkansas	409	Maine	77	Kansas	23,813
18	Idaho	873,776	Hawaii	394	New York	75	Mississippi	22,070
19	Kentucky	846,974	Wisconsin	392	Idaho	73	Nevada	21,680
20	Ohio	802,983	Michigan	387	Louisiana	69	Vermont	21,013
21	Arizona	707,686	Washington	359	Michigan	63	Texas	20,483
22	Michigan	658,575	Ohio	344	Kentucky	62	Louisiana	18,845
23	New Mexico	639,839	South Carolina	342	New Hampshire	59	Wyoming	18,787
24	Pennsylvania	627,314	Mississippi	328	Wisconsin	54	Utah	18,094
25	New York	586,536	Iowa	328	Ohio	54	Montana	17,215
26	Louisiana	565,350	Indiana	316	Virginia	46	South Carolina	16,899
27	Washington	519,009	Idaho	314	Iowa	44	Rhode Island	16,804
28	Montana	482,022	Virginia	313	Hawaii	44	Minnesota	15,522
29	North Dakota	452,137	Kentucky	288	Minnesota	44	Iowa	15,106
30	South Carolina	422,469	Minnesota	278	Illinois	36	New York	15,039
31	Indiana	420,822	Illinois	269	Texas	36	North Dakota	14,824
32	Missouri	404,773	Louisiana	265	Nebraska	36	Maine	14,225
33	Virginia	395,968	Oregon	212	Oklahoma	34	Oklahoma	13,688
34	Maryland	337,364	Tennessee	206	Washington	33	New Jersey	13,256
35	Oregon	323,441	Nebraska	203	Kansas	33	Washington	12,975
36	Utah	280,458	Kansas	180	Colorado	29	Illinois	12,747
37	Wyoming	172,843	Missouri	163	Indiana	27	Michigan	12,426
38	Tennessee	141,430	Colorado	157	South Dakota	27	Hawaii	11,482
39	Vermont	140,790	West Virginia	138	Arizona	26	Wisconsin	11,269
40	Connecticut	139,290	Oklahoma	136	Utah	24	Pennsylvania	10,632
41	New Jersey	127,254	Texas	121	Alaska	22	Massachusetts	10,632
42	Delaware	120,678	Utah	102	Oregon	19	Ohio	10,037
43	Maine	98,152	Arizona	92	New Mexico	14	Kentucky	9,307
44	Nevada	65,039	South Dakota	90	Missouri	13	Oregon	7,986
45	Massachusetts	64,853	North Dakota	74	Tennessee	12	New Hampshire	7,965
46	Hawaii	63,151	Nevada	59	North Dakota	11	Virginia	7,919
47	New Hampshire	24,691	Alaska	58	Nevada	10	Indiana	6,474
48	Alaska	19,587	New Mexico	48	Montana	8	Missouri	3,680
49	West Virginia	13,287	Montana	36	Wyoming	5	Tennessee	1,554
50	Rhode Island	11,762	Wyoming	30	West Virginia	4	West Virginia	648
	United States	43,397,572	United States	227	United States	46	United States	19,779

1/ Final agricultural sector output in the value-added accounting model (table 2).



Appendix table 4--Farm marketings, 1998 and 1999, government payments, 1999, and principal commodities, by State, 1999

State	Farm marketings, 1998			Farm marketings, 1999			Government payments	State rank for total farm marketings, four principal commodities in order of marketing receipts, and percentage of total marketings
	Total	Crops	Livestock and products	Total	Crops	Livestock and products		
AK	44,352	17,638	26,714	\$1,000	18,894	28,650	1,766	50-Greenhouse, dairy, potatoes, hay (40%)
AL	3,295,962	709,436	2,586,526	3,438,287	661,564	2,776,723	178,144	23-Broilers, cattle/calves, chicken eggs, greenhouse (81%)
AR	5,423,333	2,140,637	3,282,696	5,259,413	1,862,815	3,396,598	768,896	11-Broilers, rice, soybeans, cotton (72%)
AZ	2,330,908	1,410,084	920,824	2,178,036	1,190,779	987,257	108,030	30-Cattle/calves, dairy, lettuce, cotton (64%)
CA	24,670,514	18,144,976	6,525,538	24,800,670	18,087,032	6,713,638	651,295	1-Dairy, grapes, greenhouse, cattle/calves (42%)
CO	4,370,807	1,528,957	2,841,850	4,353,604	1,337,821	3,015,783	368,005	16-Cattle/calves, corn, dairy, wheat (71%)
CT	481,600	298,078	183,522	482,466	302,204	180,262	8,708	44-Greenhouse, dairy, chicken eggs, aquaculture (64%)
DE	775,706	166,964	608,742	718,258	152,609	565,649	19,615	40-Broilers, greenhouse, soybeans, dairy (82%)
FL	6,963,381	5,573,143	1,390,238	7,065,634	5,702,203	1,363,431	76,914	6-Oranges, greenhouse, sugar cane, dairy (56%)
GA	5,417,684	2,017,430	3,400,254	5,240,969	1,906,823	3,334,146	360,680	12-Broilers, cotton, peanuts, chicken eggs (67%)
HI	513,776	423,300	90,476	533,333	446,845	86,488	824	42-Pineapples, sugar, greenhouse, macadamia nuts (58%)
IA	11,053,381	6,299,907	4,753,474	9,716,453	5,004,190	4,712,263	1,875,525	3-Corn, hogs, soybeans, cattle/calves (89%)
ID	3,326,970	1,741,524	1,585,446	3,347,325	1,744,410	1,602,915	208,846	24-Dairy, cattle/calves, potatoes, wheat (72%)
IL	8,021,901	6,448,345	1,573,556	6,757,489	5,233,167	1,524,322	1,711,034	8-Corn, soybeans, hogs, cattle/calves (86%)
IN	4,530,934	2,899,229	1,631,705	4,373,127	2,792,335	1,580,792	810,451	15-Corn, soybeans, hogs, dairy (73%)
KS	7,946,281	3,407,635	4,538,646	7,616,026	2,607,251	5,008,775	1,382,800	5-Cattle/calves, wheat, corn, sorghum grain (86%)
KY	3,773,449	1,602,532	2,170,917	3,456,149	1,297,699	2,158,450	229,103	22-Horses/mules, tobacco, cattle/calves, broilers (72%)
LA	1,867,689	1,236,436	631,253	1,847,599	1,227,563	620,036	411,864	33-Sugar, cotton, rice, cattle/calves (53%)
MA	422,443	314,022	108,421	396,130	295,378	100,752	10,162	45-Greenhouse, dairy, cranberries, sweet corn (66%)
MD	1,512,901	570,802	942,099	1,480,998	543,638	937,360	67,358	35-Broilers, greenhouse, dairy, cattle/calves (71%)
ME	509,850	215,008	294,842	515,207	229,331	285,876	11,671	43-Potatoes, dairy, chicken eggs, aquaculture (68%)
MI	3,506,124	2,186,090	1,320,034	3,470,098	2,139,060	1,331,038	389,099	21-Dairy, greenhouse, soybeans, corn (56%)
MN	7,875,176	4,102,078	3,773,098	7,060,774	3,513,061	3,547,713	1,256,091	7-Dairy, soybeans, corn, hogs (64%)
MO	4,753,898	2,285,244	2,468,654	4,255,850	1,779,318	2,476,532	688,022	17-Cattle/calves, soybeans, hogs, corn (59%)
MS	3,435,780	1,271,281	2,164,499	3,173,759	1,031,013	2,142,746	431,096	25-Broilers, cotton, aquaculture, soybeans (73%)
MT	1,807,668	924,453	883,215	1,716,225	788,508	927,719	487,851	34-Cattle/calves, wheat, barley, hay (85%)
NC	7,189,621	3,233,271	3,956,350	6,687,855	2,837,752	3,850,103	284,725	9-Broilers, hogs, greenhouse, tobacco (65%)
ND	2,913,419	2,358,816	554,603	2,758,886	2,111,684	647,202	951,581	28-Wheat, cattle/calves, sunflower, soybeans (59%)
NE	9,030,228	3,905,782	5,124,446	8,555,037	3,130,167	5,424,870	1,322,091	4-Cattle/calves, corn, soybeans, hogs (89%)
NH	155,073	85,788	69,285	153,135	90,083	63,052	3,944	48-Greenhouse, dairy, apples, cattle/calves (77%)
NJ	787,207	608,973	178,234	740,337	553,598	186,739	9,955	39-Greenhouse, horses/mules, dairy, blueberries (64%)
NM	1,940,719	521,050	1,419,669	1,953,423	512,634	1,440,789	92,069	32-Cattle/calves, dairy, hay, pecans (83%)
NV	348,010	149,170	198,840	334,272	117,989	216,283	2,674	47-Cattle/calves, dairy, hay, greenhouse (84%)
NY	3,146,418	1,054,669	2,091,749	3,097,416	1,054,210	2,043,206	117,168	26-Dairy, greenhouse, cattle/calves, apples (73%)
OH	4,917,859	3,064,167	1,853,692	4,428,837	2,642,582	1,786,255	627,715	14-Soybeans, corn, dairy, greenhouse (63%)
OK	3,765,136	962,331	2,802,805	3,990,509	855,084	3,135,425	526,401	19-Cattle/calves, broilers, wheat, hogs (79%)
OR	2,960,525	2,198,775	761,750	3,052,453	2,262,383	790,070	105,499	27-Greenhouse, cattle/calves, dairy, ryegrass (49%)
PA	4,161,307	1,252,106	2,909,201	4,070,342	1,193,081	2,877,261	94,277	18-Dairy, cattle/calves, greenhouse, chicken eggs (65%)
RI	49,045	39,703	9,342	47,606	39,147	8,459	877	49-Greenhouse, dairy, sweet corn, potatoes (78%)
SC	1,496,924	733,335	763,589	1,406,077	632,792	773,285	127,083	36-Broilers, greenhouse, turkeys, tobacco (58%)
SD	3,403,751	1,854,617	1,549,134	3,539,069	1,708,809	1,830,260	746,176	20-Cattle/calves, soybeans, corn, wheat (76%)
TN	2,204,982	1,166,137	1,038,845	1,974,368	963,096	1,011,272	208,224	31-Cattle/calves, broilers, dairy, tobacco (56%)
TX	13,153,826	5,005,011	8,148,815	13,051,581	4,571,830	8,479,751	1,914,139	2-Cattle/calves, cotton, greenhouse, broilers (72%)
UT	983,654	260,757	722,897	966,584	242,905	723,679	30,089	37-Cattle/calves, dairy, hay, greenhouse (72%)
VA	2,331,549	766,285	1,565,264	2,283,039	703,535	1,579,504	98,556	29-Broilers, cattle/calves, dairy, turkeys (58%)
VT	533,867	71,021	462,846	540,699	66,062	472,637	12,242	41-Dairy, cattle/calves, greenhouse, hay (91%)
WA	5,155,906	3,413,095	1,742,811	4,933,296	3,274,860	1,658,436	269,452	13-Dairy, apples, cattle/calves, potatoes (53%)
WI	6,101,457	1,610,041	4,491,416	5,596,072	1,446,753	4,149,319	11,102	10-Dairy, cattle/calves, corn, potatoes (80%)
WV	395,755	60,776	334,979	386,598	53,035	333,563	484,134	46-Broilers, cattle/calves, dairy, turkeys (75%)
WY	847,839	167,858	679,981	851,672	172,062	679,610	39,947	38-Cattle/calves, sugar beets, hay, sheep/lambs (85%)
US	196,574,929	102,463,380	94,111,549	188,609,611	93,146,366	95,463,245	20,593,972	Cattle/calves, dairy, broilers, corn (48%)

Appendix table 5--Corn production costs and returns, excluding direct government payments, 1998-99

Item	United States		Heartland		Northern Crescent		Northern Great Plains		Prairie Gateway		Eastern Uplands		Southern Seaboard	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Primary product: Corn grain	259.76	228.15	275.04	235.47	236.25	209.56	195.36	162.75	271.05	246.40	241.68	194.00	145.28	180.94
Secondary product: Corn silage	3.12	2.55	1.33	1.17	15.21	11.99	2.10	1.52	0.20	0.15	0.00	0.00	2.12	3.46
Total, gross value of production	262.88	230.70	276.37	236.64	251.46	221.55	197.46	164.27	271.25	246.55	241.68	194.00	147.40	184.40
Operating costs:														
Seed	30.02	30.29	31.07	30.71	28.00	28.54	27.60	30.35	29.83	31.93	22.93	23.12	22.93	23.45
Fertilizer, lime, and gypsum	41.44	38.75	44.36	41.56	35.79	34.23	22.37	20.12	36.68	32.84	51.85	49.68	54.99	51.52
Soil conditioners	0.16	0.17	0.10	0.10	0.47	0.53	0.00	0.00	0.01	0.01	1.66	1.59	0.69	0.67
Manure	0.51	0.49	0.39	0.37	1.82	1.76	0.00	0.00	0.00	0.01	0.48	0.44	0.04	0.04
Chemicals	27.36	28.40	28.69	29.95	26.01	27.20	19.41	19.57	25.87	25.80	31.63	32.17	20.64	20.41
Custom operations 1/	11.29	11.37	10.70	10.73	9.76	9.97	21.49	21.60	13.82	14.06	6.43	6.20	11.54	11.83
Fuel, lube, and electricity	22.96	23.04	20.76	21.08	20.08	20.64	19.75	18.88	40.61	38.88	16.27	16.32	13.76	15.37
Repairs	16.65	17.17	15.14	15.62	16.56	16.72	18.24	18.80	24.42	25.38	15.44	15.28	15.55	17.22
Other variable cash expenses 2/	0.31	0.31	0.00	0.00	0.00	0.00	0.24	0.25	2.26	2.27	0.00	0.00	0.00	0.00
Interest on operating capital	3.61	3.50	3.62	3.50	3.32	3.25	3.09	3.04	4.16	4.02	3.52	3.37	3.36	3.30
Total, operating costs	154.31	153.49	154.83	153.62	141.81	142.84	132.19	132.61	177.66	175.20	150.21	148.17	143.50	143.81
Allocated overhead:														
Hired labor	3.19	3.28	2.27	2.34	4.24	4.55	1.78	1.91	6.01	6.07	2.75	2.92	10.81	11.31
Opportunity cost of unpaid labor	30.63	31.43	30.14	30.92	36.81	37.94	23.10	24.09	24.21	24.67	57.54	59.44	52.28	53.71
Capital recovery of machinery and equipment	66.46	68.49	63.67	65.70	69.23	69.86	59.30	60.79	80.53	83.46	70.40	69.82	68.33	75.29
Opportunity cost of land (rental rate)	86.35	86.77	97.17	97.32	64.86	65.48	55.33	56.02	80.17	79.08	43.55	46.49	33.23	33.86
Taxes and insurance	7.05	6.96	6.38	6.30	6.47	6.38	9.78	9.85	10.02	9.93	6.79	6.68	9.21	9.06
General farm overhead	11.47	10.88	11.49	10.86	14.31	13.57	6.75	6.40	10.30	9.87	11.29	10.70	9.74	9.22
Total, allocated overhead	205.15	207.81	211.12	213.44	195.92	197.78	156.04	159.06	211.24	213.08	192.32	196.05	183.60	192.45
Total, costs listed	359.46	361.30	365.95	367.06	337.73	340.62	288.23	291.67	388.90	388.28	342.53	344.22	327.10	336.26
Value of production less total costs listed	-96.58	-130.60	-89.58	-130.42	-86.27	-119.07	-90.77	-127.40	-117.65	-141.73	-100.85	-150.22	-179.70	-151.86
Value of production less operating costs	108.57	77.21	121.54	83.02	109.65	78.71	65.27	31.66	93.59	71.35	91.47	45.83	3.90	40.59
Supporting information:														
Yield (bushels per planted acre)	136	135	144	141	125	124	111	105	139	140	114	97	64	83
Price (dollars per bushel at harvest)	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Enterprise size (planted acres) 3/	189	189	223	223	113	113	301	301	344	344	42	42	96	96
Production practices: 3/														
Irrigated (percent)	15	15	9	9	2	2	39	39	77	77	0	0	0	0
Dryland (percent)	85	85	94	94	98	98	61	61	23	23	100	100	100	100

1/ Cost of custom operations, technical services and commercial drying. 2/ Cost of purchased irrigation water. 3/ For 1996 survey base year only.



Appendix table 6--Soybean production costs and returns, 1998-99

Item	Northern															
	United States		Heartland		Northern Crescent		Great Plains		Prairie Gateway		Eastern Uplands		Southern Seaboard		Mississippi Portal	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre																
Gross value of production																
Primary product: Soybeans	223.17	178.00	237.36	186.06	224.84	189.20	204.12	168.40	188.33	154.35	175.36	100.98	217.20	120.96	143.50	120.75
Total, gross value of production	223.17	178.00	237.36	186.06	224.84	189.20	204.12	168.40	188.33	154.35	175.36	100.98	217.20	120.96	143.50	120.75
Operating costs:																
Seed	20.46	19.25	19.77	18.41	24.21	20.65	16.13	17.11	22.86	23.37	21.32	22.85	21.24	23.46	21.57	20.64
Fertilizer	8.00	7.96	7.23	7.25	13.33	13.38	5.05	4.91	4.30	4.25	19.88	20.18	22.59	21.42	7.81	7.94
Soil conditioners	0.10	0.10	0.08	0.08	0.19	0.19	0.00	0.00	0.03	0.03	0.45	0.47	0.75	0.72	0.06	0.06
Manure	0.80	0.79	0.91	0.88	1.88	1.94	0.41	0.40	0.05	0.05	0.15	0.15	0.23	0.22	0.06	0.06
Chemicals	26.65	24.88	27.31	25.56	25.78	25.87	20.24	19.21	24.31	23.02	25.64	23.86	24.71	20.98	25.81	22.75
Custom operations	5.84	5.86	5.93	5.90	6.01	6.31	6.35	6.46	6.48	6.48	3.63	3.58	5.68	5.59	4.98	5.01
Fuel, lube, and electricity	5.97	5.90	5.35	5.32	6.28	6.23	7.15	6.87	8.35	8.06	4.25	4.02	6.37	5.21	8.27	8.29
Repairs	9.59	9.79	8.91	9.11	9.39	9.39	9.93	10.03	11.76	11.94	7.88	7.59	9.67	9.29	12.92	13.57
Purchased irrigation water	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.76	0.00	0.00	0.00	0.00	0.00	0.00
Interest on operating capital	1.86	1.75	1.81	1.71	2.09	1.97	1.56	1.53	1.89	1.83	1.99	1.95	2.19	2.05	1.95	1.84
Total, operating costs	79.32	76.33	77.30	74.22	89.16	85.93	66.82	66.52	80.80	79.79	85.19	84.65	93.43	88.94	83.43	80.16
Allocated overhead:																
Hired labor	1.98	2.01	1.29	1.32	1.90	1.97	2.58	2.80	2.42	2.43	2.08	2.20	3.85	3.98	5.62	5.87
Opportunity cost of unpaid labor	18.11	18.46	17.73	17.97	24.44	24.66	14.62	14.83	19.50	20.37	30.91	30.93	20.92	21.87	14.58	15.08
Capital recovery of machinery and equipment	50.66	51.58	47.99	49.01	51.63	51.60	46.38	46.76	56.65	57.50	47.90	46.03	55.34	53.15	63.55	66.42
Opportunity cost of land(rental rate)	77.66	79.74	87.96	88.38	65.46	65.85	38.18	40.10	49.89	54.57	29.71	41.84	33.84	35.71	55.49	67.23
Taxes and insurance	6.89	6.77	6.97	6.82	6.99	6.86	8.77	8.65	8.25	8.07	5.75	5.67	5.00	4.86	5.82	5.69
General farm overhead	12.94	14.13	13.40	14.55	13.27	14.62	20.04	21.90	12.54	13.65	10.00	10.88	11.44	12.51	9.50	10.35
Total, allocated overhead	168.24	172.69	175.34	178.05	163.69	165.56	130.57	135.04	149.25	156.59	126.35	137.55	130.39	132.08	154.56	170.64
Total, costs listed	247.56	249.02	252.64	252.27	252.85	251.49	197.39	201.56	230.05	236.38	211.54	222.20	223.82	221.02	237.99	250.80
Value of production less total costs listed	-24.39	-71.02	-15.28	-66.21	-28.01	-62.29	6.73	-33.16	-41.72	-82.03	-36.18	-121.22	-6.62	-100.06	-94.49	-130.05
Value of production less operating costs	143.85	101.67	160.06	111.84	135.68	103.27	137.30	101.88	107.53	74.56	90.17	16.33	123.77	32.02	60.07	40.59
Supporting information:																
Yield (bushels per planted acre)	43	40	46	42	44	43	42	40	37	35	32	22	40	27	25	25
Price (dollars per bushel at harvest)	5.19	4.45	5.16	4.43	5.11	4.40	4.86	4.21	5.09	4.41	5.48	4.59	5.43	4.48	5.74	4.83
Enterprise size (planted acres) 1/	220	220	225	225	115	115	281	281	170	170	130	130	234	234	495	495
Production practices: 1/																
Irrigated (percent)	5	5	2	2	3	3	7	7	20	20	0	0	0	0	19	19
Dryland (percent)	95	95	98	98	97	97	93	93	80	80	100	100	100	100	81	81

1/ For 1996 survey base year only.

Appendix table 7--Wheat production costs and returns, 1998-99

Item	United States		Northern Great Plains		Prairie Gateway		Basin and Range		Fruitful Rim	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre										
Gross value of production										
Primary product: Wheat grain	110.95	95.23	100.10	84.69	103.74	81.19	158.60	154.84	169.44	176.65
Secondary product: straw/grazing	3.32	3.05	1.74	1.42	2.24	2.08	0.52	0.47	4.06	4.03
Total, gross value of production	114.27	98.28	101.84	86.11	105.98	83.27	159.12	155.31	173.50	180.68
Operating costs:										
Seed	7.61	6.38	7.64	6.36	5.13	4.39	10.80	9.15	12.33	10.73
Fertilizer	18.61	16.95	14.78	13.46	14.27	13.33	29.83	26.71	30.97	27.73
Chemicals	7.36	7.22	10.61	10.28	3.30	3.23	16.13	15.67	14.49	14.12
Custom operations	6.77	6.58	4.04	3.88	8.07	7.76	4.36	3.80	13.73	13.21
Fuel, lube, and electricity	6.14	6.59	4.25	4.21	7.03	7.68	6.68	7.61	13.89	15.78
Repairs	9.00	9.44	8.10	8.85	8.84	8.98	13.19	13.21	14.41	14.31
Purchased irrigation water and baling	0.58	0.59	0.16	0.16	0.15	0.16	1.12	1.11	6.04	6.07
Interest on operating inputs	1.34	1.26	1.19	1.11	1.12	1.07	1.97	1.82	2.54	2.40
Total, operating costs	57.41	55.01	50.77	48.31	47.91	46.60	84.08	79.08	108.40	104.35
Allocated overhead:										
Hired labor	2.12	2.17	1.45	1.48	1.77	1.78	5.02	5.16	6.56	6.68
Opportunity cost of unpaid labor	14.85	15.32	10.77	11.18	15.80	16.24	25.41	26.05	20.52	21.80
Capital recovery of machinery and equipment	43.00	45.52	41.23	45.06	40.66	41.32	64.10	64.08	63.31	62.72
Opportunity cost of land (rental rate)	37.52	42.51	35.09	40.59	28.18	32.53	49.50	60.31	76.64	86.12
Taxes and insurance	3.70	3.71	3.76	3.78	3.03	3.02	7.06	7.06	5.86	5.91
General farm overhead	6.59	6.69	6.32	6.42	5.67	5.74	11.46	11.59	10.12	10.39
Total, allocated overhead	107.78	115.92	98.62	108.51	95.11	100.63	162.55	174.25	183.01	193.62
Total, costs listed	165.19	170.93	149.39	156.82	143.02	147.23	246.63	253.33	291.41	297.97
Value of production less total costs listed	-50.92	-72.65	-47.55	-70.71	-37.04	-63.96	-87.51	-98.02	-117.91	-117.29
Value of production less operating costs	56.86	43.27	51.07	37.80	58.07	36.67	75.04	76.23	65.10	76.33
Supporting information:										
Yield (bushels per planted acre)	41.40	38.40	34.40	31.60	39.00	35.30	65.00	56.10	68.60	62.20
Price (dollars per bushel at harvest)	2.68	2.48	2.91	2.68	2.66	2.30	2.44	2.76	2.47	2.84
Enterprise size (planted acres) 1/	296	296	527	527	347	347	527	527	359	359
Production practices: 1/										
Winter wheat (percent of acres)	67	67	19	19	100	100	80	80	80	80
Spring wheat (percent of acres)	27	27	66	66	0	0	19	19	12	12
Durum wheat (percent of acres)	6	6	15	15	0	0	*	*	8	8
Irrigated (percent of acres)	5	5	*	*	6	6	8	8	35	35
Dryland (percent of acres)	95	95	99	99	94	94	92	92	65	65
Fallow (percent of acres)	9	9	22	22	0	0	12	12	*	*
Double-cropped (percent of acres)	*	*	0	0	*	*	0	0	0	0
Straw (percent of acres)	7	7	8	8	*	*	6	6	14	14
Home-grown seed (percent of seed)	60	60	70	70	68	68	33	33	19	19

See footnotes at end of table.

--Continued



Appendix table 7--Wheat production costs and returns, 1998-99--Continued

Item	Northern Crescent		Heartland		Southern Seaboard		Mississippi Portal	
	1998	1999	1998	1999	1998	1999	1998	1999
	Dollars per planted acre							
Gross value of production								
Primary product: Wheat grain	138.17	129.75	125.97	120.69	110.25	101.91	128.76	134.14
Secondary product: straw/grazing	54.11	58.42	13.58	14.10	6.84	6.50	1.75	1.72
Total, gross value of production	192.28	188.17	139.55	134.79	117.09	108.41	130.51	135.86
Operating costs:								
Seed	13.32	10.01	13.25	10.84	16.39	14.37	14.45	11.74
Fertilizer	33.69	32.56	37.91	35.22	44.57	42.59	24.19	22.73
Chemicals	3.05	2.94	3.76	3.86	5.59	5.43	7.06	6.93
Custom operations	10.92	11.82	6.46	7.10	14.14	14.55	17.47	18.77
Fuel, lube, and electricity	3.82	4.03	4.36	4.61	5.72	5.38	5.00	5.08
Repairs	5.93	6.49	7.19	8.16	9.35	10.23	8.59	9.09
Purchased irrigation water and baling	1.99	2.02	0.50	0.52	0.17	0.17	0.15	0.15
Interest on operating inputs	1.74	1.64	1.76	1.65	2.30	2.18	1.84	1.75
Total, operating costs	74.46	71.51	75.19	71.96	98.23	94.90	78.75	76.24
Allocated overhead:								
Hired labor	0.37	0.38	1.30	1.29	5.36	5.58	5.37	5.48
Opportunity cost of unpaid labor	15.66	16.27	16.51	17.07	20.42	21.33	6.21	6.43
Capital recovery of machinery and equipment	36.19	39.47	38.60	43.83	43.01	46.98	42.19	44.61
Opportunity cost of land (rental rate)	65.70	66.06	63.40	64.55	43.60	47.84	45.59	54.33
Taxes and insurance	4.02	4.04	3.26	3.17	2.62	2.68	6.71	6.69
General farm overhead	7.89	8.00	7.21	7.26	5.74	5.93	9.83	9.94
Total, allocated overhead	129.83	134.22	130.28	137.17	120.75	130.34	115.90	127.48
Total, costs listed	204.29	205.73	205.47	209.13	218.98	225.24	194.65	203.72
Value of production less total costs listed	-12.01	-17.56	-65.92	-74.34	-101.89	-116.83	-64.14	-67.86
Value of production less operating costs	117.82	116.66	64.36	62.83	18.86	13.51	51.76	59.62
Supporting information:								
Yield (bushels per planted acre)	59.30	65.20	51.00	57.20	42.90	45.70	51.30	56.60
Price (dollars per bushel at harvest)	2.33	1.99	2.47	2.11	2.57	2.23	2.51	2.37
Enterprise size (planted acres) 1/	45	45	79	79	131	131	232	232
Production practices: 1/								
Winter wheat (percent of acres)	95	95	85	85	100	100	100	100
Spring wheat (percent of acres)	5	5	15	15	0	0	0	0
Durum wheat (percent of acres)	0	0	0	0	0	0	0	0
Irrigated (percent of acres)	0	0	0	0	*	*	0	0
Dryland (percent of acres)	100	100	100	100	99	99	100	100
Fallow (percent of acres)	0	0	0	0	0	0	0	0
Double-cropped (percent of acres)	0	0	*	*	10	10	*	*
Straw (percent of acres)	64	64	17	17	13	13	*	*
Home-grown seed (percent of seed)	54	54	39	39	27	27	10	10

1/ Developed for survey base year, 1998.

\* = 0.1 to less than 5 percent.

Appendix table 8--Cotton production costs and returns, 1998-99

Item	United States		Heartland		Prairie Gateway		Southern Seaboard		Fruitful Rim		Mississippi Portal	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre												
Gross value of production:												
Primary product: Cotton	307.20	274.48	331.98	299.00	177.00	172.43	448.90	272.16	304.92	537.30	429.65	311.42
Secondary product: Cottonseed	48.90	40.32	46.98	50.15	36.75	30.60	63.30	39.96	73.64	85.26	60.54	48.32
Total, gross value of production	356.10	314.80	378.96	349.15	213.75	203.03	512.20	312.12	378.56	622.56	490.19	359.74
Operating costs:												
Seed	17.87	18.35	9.91	9.63	14.17	16.12	18.20	18.62	25.87	23.18	19.51	19.42
Fertilizer	31.76	29.91	31.84	29.85	18.25	17.11	47.16	43.80	41.75	38.72	36.64	34.71
Chemicals	58.54	58.60	74.94	74.32	26.10	25.89	70.02	69.28	93.99	92.11	85.46	86.03
Custom operations	13.02	19.67	6.33	8.19	6.54	8.74	15.37	13.23	28.34	74.37	14.11	14.35
Fuel, lube, and electricity	26.29	26.64	16.52	17.46	25.37	25.27	21.08	21.94	49.14	51.40	19.58	20.39
Repairs	27.32	26.28	34.57	33.73	25.65	24.36	24.79	24.01	26.50	25.15	32.78	31.78
Interest on operating inputs	5.40	5.61	5.18	5.36	3.53	3.74	6.21	5.71	8.54	10.34	6.25	6.13
Ginning	43.78	53.08	42.25	54.65	31.13	41.61	62.43	52.06	42.20	88.64	52.67	53.87
Purchased irrigation water	6.89	6.12	0.00	0.00	0.00	0.00	0.00	0.00	48.55	46.02	0.00	0.00
Total, operating costs	230.87	244.26	221.54	233.19	150.74	162.84	265.26	248.65	364.88	449.93	267.00	266.68
Allocated overhead:												
Hired labor	33.92	35.48	22.90	25.01	26.56	28.59	26.21	27.72	60.27	61.03	39.06	40.64
Opportunity cost of unpaid labor	28.76	29.27	17.94	18.72	29.75	30.02	35.21	36.45	31.00	31.86	21.36	21.80
Capital recovery of machinery and equipment	93.16	96.80	119.40	125.39	84.69	87.25	87.08	91.11	95.90	98.01	110.84	115.65
Opportunity cost of land	46.04	51.84	62.88	56.71	21.86	22.13	40.75	45.54	119.70	138.04	46.04	58.84
Taxes and insurance	14.20	15.07	6.60	7.03	13.50	14.44	16.76	17.77	15.22	16.14	13.58	14.17
General farm overhead	14.21	15.35	5.92	6.43	9.98	10.85	11.70	12.84	31.15	33.76	14.59	15.86
Total, allocated overhead	230.29	243.81	235.64	239.29	186.34	193.28	217.71	231.43	353.24	378.84	245.47	266.96
Total costs listed	461.16	488.07	457.18	472.48	337.08	356.12	482.97	480.08	718.12	828.77	512.47	533.64
Value of production less total costs listed	-105.06	-173.27	-78.22	-123.33	-123.33	-153.09	29.23	-167.96	-339.56	-206.21	-22.28	-173.90
Value of production less operating costs	125.23	70.54	157.42	115.96	63.01	40.19	246.94	63.47	13.68	172.63	223.19	93.06
Supporting information:												
Cotton yield: pounds per planted acre	480	584	503	650	300	401	670	567	462	995	661	677
Price: dollars per pound	0.64	0.47	0.66	0.46	0.59	0.43	0.67	0.48	0.66	0.54	0.65	0.46
Cottonseed yield: pounds per planted acre	815	1,008	783	1,003	525	765	1,055	999	1,052	1,421	1,009	1,208
Price: dollars per pound	0.06	0.04	0.06	0.05	0.07	0.04	0.06	0.04	0.07	0.06	0.06	0.04
Production practices: 1/												
Irrigated (percent)	33	33	33	33	30	30	11	11	74	74	30	30
Dryland (percent)	67	67	67	67	70	70	89	89	26	26	70	70
Land tenure: 1/												
Acres owned (percent)	35	35	21	21	30	30	37	37	54	54	31	31
Acres cash rented (percent)	23	23	16	16	4	4	56	56	25	25	26	26
Acres share rented (percent)	42	42	63	63	66	66	7	7	21	21	43	43
Land rent basis 2/	Composite		Share		Share		Cash		Cash		Cash	

1/ Developed from survey base year, 1997. 2/ Method used to determine the opportunity cost of land.



Appendix table 9a--Barley production costs and returns, excluding direct Government payments, 1998-99

Item	United States		Northeast		Northern Plains		Northwest		Southwest	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Barley	100.08	98.88	123.86	102.57	79.90	73.27	145.29	148.44	118.94	125.57
Barley straw	4.93	5.10	61.12	67.20	2.07	1.79	3.66	3.25	6.05	3.81
Total, gross value of production	105.01	103.98	184.98	169.77	81.97	75.06	148.95	151.69	124.99	129.38
Cash expenses:										
Seed	8.45	8.01	13.14	12.62	6.30	5.73	12.69	11.87	12.20	10.06
Fertilizer, lime, and gypsum	19.03	18.03	37.41	34.98	14.49	13.52	29.46	26.47	15.53	14.32
Chemicals	10.13	10.27	3.63	3.61	8.11	8.14	17.24	16.71	7.80	7.85
Custom operations	4.78	5.05	4.79	4.76	3.49	3.68	6.88	6.68	10.77	10.67
Fuel, lube, and electricity	12.14	13.57	7.22	7.49	7.55	7.72	23.97	26.07	18.47	19.53
Repairs	15.29	15.49	12.64	12.77	14.08	14.25	19.10	18.79	14.94	15.01
Hired labor	5.90	6.30	5.13	5.41	4.50	4.65	8.88	9.10	9.87	10.27
Other variable cash expenses 1/	2.12	2.38	2.04	2.01	1.06	1.32	4.23	4.08	5.50	5.27
Total, variable cash expenses	77.84	79.10	86.00	83.65	59.58	59.01	122.45	119.77	95.08	92.98
General farm overhead	6.55	6.28	5.96	5.68	6.07	5.77	7.30	6.87	9.27	8.72
Taxes and insurance	12.40	12.02	13.67	13.80	11.14	10.39	13.97	13.56	19.31	18.98
Interest	10.93	10.67	3.68	3.47	11.33	11.40	12.24	11.52	5.77	5.46
Total, fixed cash expenses	29.88	28.97	23.31	22.95	28.54	27.56	33.51	31.95	34.35	33.16
Total, cash expenses	107.72	108.07	109.31	106.60	88.12	86.57	155.96	151.72	129.43	126.14
Gross value of production less cash expenses	-2.71	-4.09	75.67	63.17	-6.15	-11.51	-7.01	-0.03	-4.44	3.24
Harvest-period price (dollars/bu.)	1.83	1.89	1.95	1.35	1.69	1.73	1.98	2.12	2.14	2.24
Yield (bu./planted acre)	54.69	52.32	63.52	75.98	47.28	42.35	73.38	70.02	55.58	56.06

Appendix table 9b--Barley production economic costs and returns, excluding direct Government payments, 1998-99

Item	United States		Northeast		Northern Plains		Northwest		Southwest	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre										
Gross value of production (excluding direct Government payments):										
Barley	100.08	98.88	123.86	102.57	79.90	73.27	145.29	148.44	118.94	125.57
Barley straw	4.93	5.10	61.12	67.20	2.07	1.79	3.66	3.25	6.05	3.81
Total, gross value of production	105.01	103.98	184.98	169.77	81.97	75.06	148.95	151.69	124.99	129.38
Economic (full ownership) costs:										
Variable cash expenses	77.84	79.10	86.00	83.65	59.58	59.01	122.45	119.77	95.08	92.98
General farm overhead	6.55	6.28	5.96	5.68	6.07	5.77	7.30	6.87	9.27	8.72
Taxes and insurance	12.40	12.02	13.67	13.80	11.14	10.39	13.97	13.56	19.31	18.98
Capital replacement	31.30	32.00	23.61	23.83	28.40	29.18	39.70	38.93	34.46	34.54
Operating capital	1.89	1.88	2.08	1.99	1.45	1.41	2.97	2.85	2.30	2.21
Other nonland capital	15.18	14.49	11.88	11.43	15.10	14.57	15.97	14.89	14.94	14.19
Land	33.64	35.30	18.70	22.92	28.77	28.12	46.14	50.03	46.97	47.77
Unpaid labor	7.91	8.43	15.02	15.92	6.04	6.21	11.33	11.64	10.32	10.76
Total, economic costs	186.71	189.50	176.92	179.22	156.55	154.66	259.83	258.54	232.65	230.15
Residual returns to management and risk	-81.70	-85.52	8.06	-9.45	-74.58	-79.60	-110.88	-106.85	-107.66	-100.77
Harvest-period price (dollars/bu.)	1.83	1.89	1.95	1.35	1.69	1.73	1.98	2.12	2.14	2.24
Yield (bu./planted acre)	54.69	52.32	63.52	75.98	47.28	42.35	73.38	70.02	55.58	56.06

1/ Cost of purchased irrigation water and baling.

Appendix table 10--Grain sorghum production costs and returns per planted acre, 1998-99

Item	United States		Eastern Upland		Heartland		Mississippi Portal		Prairie Gateway	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre										
Gross value of production:										
Sorghum	107.59	96.66	104.88	84.24	146.28	110.96	88.69	123.84	109.18	92.04
Total, gross value of production	107.59	96.66	104.88	84.24	146.28	110.96	88.69	123.84	109.18	92.04
Operating costs:										
Seed	6.10	6.72	7.52	7.00	10.39	8.91	9.01	7.49	5.66	6.18
Fertilizer	14.31	13.89	24.88	23.88	22.24	26.15	26.20	25.05	13.66	12.45
Chemicals	10.60	11.20	10.76	10.95	16.90	20.14	17.30	16.49	10.74	10.76
Custom operations	5.84	6.78	2.89	5.59	7.91	6.82	5.78	9.05	5.75	5.80
Fuel, lube, and electricity	19.03	21.92	19.75	29.33	14.69	25.15	10.37	9.87	20.00	22.64
Repairs	16.46	14.70	16.99	16.75	17.11	13.96	19.45	16.83	16.73	14.67
Interest on operating inputs	1.73	1.77	1.98	2.20	2.14	2.38	2.11	1.99	1.74	1.71
Total, operating costs	74.07	76.98	84.77	95.70	91.38	103.51	90.22	86.77	74.28	74.21
Allocated overhead:										
Hired labor	4.41	6.36	0.90	2.02	2.60	2.49	12.94	11.98	4.46	6.38
Opportunity cost of unpaid labor	19.26	20.38	28.02	22.50	22.34	18.66	15.61	13.08	31.92	20.47
Capital recovery of machinery and equipment	58.34	55.79	59.13	63.53	57.92	52.90	64.54	60.35	59.99	56.36
Opportunity cost of land*	26.79	23.53	43.96	37.78	61.75	68.00	19.02	26.92	26.03	19.67
Taxes and insurance	6.05	4.90	12.15	7.81	8.38	7.07	7.70	7.05	6.24	4.84
General farm overhead	5.44	3.97	4.58	6.85	3.56	2.91	4.59	3.86	5.59	3.89
Total, allocated overhead	120.29	114.93	148.74	140.49	156.55	152.03	124.40	123.24	134.23	111.61
Total costs listed	194.36	191.91	233.51	236.19	247.93	255.54	214.62	210.01	208.51	185.82
Value of production less total costs listed	-86.77	-95.25	-128.63	-151.95	-101.65	-144.58	-125.93	-86.17	-99.33	-93.78
Value of production less operating costs	33.52	19.68	20.11	-11.46	54.90	7.45	-1.53	37.07	34.90	17.83
Supporting information:										
Sorghum yield: bushels per acre	53	54	57	54	92	76	49	72	53	52
Price: dollars per bushel	2.03	1.79	1.84	1.56	1.59	1.46	1.81	1.72	2.06	1.77
Production practices: 1/										
Irrigated (percent)	9	9	1	1	2	2	5	5	10	10
Dryland (percent)	91	91	99	99	98	98	95	95	90	90
Land tenure: 1/										
Acres owned (percent)	31	31	30	30	41	41	15	15	32	32
Acres cash rented (percent)	16	16	27	27	11	11	22	22	16	16
Acres share rented (percent)	53	53	43	43	48	48	62	62	53	53
Land rent basis 2/	--Composite--		--Cash--		--Cash--		--Share--		--Share--	

1/ Developed from survey base year, 1995. 2/ Method used to determine the opportunity cost of land.



Appendix table 11a--Oats production costs and returns, excluding direct Government payments, 1998-99 1/

Item	United States		Northeast		North Central		Northern Plains	
	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre								
Gross value of production (excluding direct Government payments):								
Oats	66.75	62.17	62.38	55.10	64.03	68.26	65.89	53.92
Oats straw	32.03	32.85	42.11	43.19	44.21	45.34	8.92	9.15
Total, gross value of production	98.78	95.02	104.49	98.29	108.24	113.60	74.81	63.07
Cash expenses:								
Seed	7.89	7.47	14.34	14.16	9.72	9.02	3.97	3.93
Fertilizer, lime, and gypsum	15.63	14.70	28.20	28.00	19.10	17.90	8.46	7.72
Chemicals	1.83	1.82	2.90	2.88	1.27	1.26	2.32	2.30
Custom operations	4.31	4.32	4.89	4.90	5.73	5.75	2.41	2.42
Fuel, lube, and electricity	6.71	6.34	10.67	10.60	3.54	3.72	9.11	7.95
Repairs	10.84	9.95	14.52	11.78	7.10	6.70	13.73	12.96
Hired labor	2.13	2.23	3.45	3.61	1.91	2.00	0.38	0.40
Other variable cash expenses 2/	1.19	1.22	1.46	1.50	1.63	1.67	0.40	0.41
Total, variable cash expenses	50.53	48.05	80.43	77.43	50.00	48.02	40.78	38.09
General farm overhead	5.86	5.94	8.73	8.86	5.01	5.08	3.56	3.61
Taxes and insurance	14.20	14.85	20.82	22.10	19.58	20.15	7.61	7.75
Interest	5.82	5.49	5.58	5.27	6.50	6.13	5.40	5.10
Total, fixed cash expenses	25.88	26.28	35.13	36.23	31.09	31.36	16.57	16.46
Total, cash expenses	76.41	74.33	115.56	113.66	81.09	79.38	57.35	54.55
Gross value of production less cash expenses	22.37	20.69	-11.07	-15.37	27.15	34.22	17.46	8.52
Harvest-period price (dollars/bu.)	1.07	1.01	1.15	0.97	1.09	1.10	1.00	0.91
Yield (bu./planted acre)	62.38	61.55	54.24	56.80	58.74	62.05	65.89	59.25

Appendix table 11b--Oats production economic costs and returns, excluding direct Government payments, 1998-99 1/

Item	United States		Northeast		North Central		Northern Plains	
	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre								
Gross value of production (excluding direct Government payments):								
Oats	66.75	62.17	62.38	55.10	64.03	68.26	65.89	53.92
Oats straw	32.03	32.85	42.11	43.19	44.21	45.34	8.92	9.15
Total, gross value of production	98.78	95.02	104.49	98.29	108.24	113.60	74.81	63.07
Economic (full ownership) costs:								
Variable cash expenses	50.53	48.05	80.43	77.43	50.00	48.02	40.78	38.09
General farm overhead	5.86	5.94	8.73	8.86	5.01	5.08	3.56	3.61
Taxes and insurance	14.20	14.85	20.82	22.10	19.58	20.15	7.61	7.75
Capital replacement	19.49	17.90	22.51	18.26	13.21	12.47	24.37	23.00
Operating capital	1.12	1.05	1.95	1.84	1.21	1.14	0.99	0.91
Nonland capital	10.67	10.14	11.92	11.34	10.33	9.82	11.01	10.47
Land	27.96	27.99	6.03	6.04	37.26	37.30	22.55	22.58
Unpaid labor	17.77	18.40	23.09	24.17	22.50	23.27	11.42	11.80
Total, economic costs	147.60	144.32	175.48	170.04	159.10	157.25	122.29	118.21
Residual returns to management and risk	-48.82	-49.30	-70.99	-71.75	-50.86	-43.66	-47.48	-55.14
Harvest-period price (dollars/bu.)	1.07	1.01	1.15	0.97	1.09	1.10	1.00	0.91
Yield (bu./planted acre)	62.38	61.55	54.24	56.80	58.74	62.05	65.89	59.25

1/ Survey base year 1994. 2/ Includes cost of baling.

Appendix table 12a--Rice production costs and returns, excluding direct Government payments, 1998-99

Item	United States		Arkansas (non-Delta)		Mississippi River Delta		Gulf Coast 1/		California	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
	Dollars per planted acre									
Gross value of production (excluding direct Government payments):										
Rice	525.75	373.84	548.09	389.94	524.95	384.47	491.67	403.51	665.64	390.85
Total, gross value of production	525.75	373.84	548.09	389.94	524.95	384.47	491.67	403.51	665.64	390.85
Cash expenses:										
Seed	25.15	24.34	25.04	22.21	24.55	24.47	25.73	25.20	25.28	26.81
Fertilizer	46.41	43.93	38.25	35.75	40.35	38.13	49.79	47.22	64.12	61.45
Chemicals	68.32	68.78	65.18	65.62	66.74	67.19	62.86	63.29	83.76	84.32
Custom operations 2/	45.32	45.45	34.65	33.58	34.86	34.20	40.29	39.84	85.05	89.16
Fuel, lube, and electricity	58.25	61.39	60.14	59.05	62.50	67.21	55.12	59.00	53.92	61.72
Repairs	29.10	30.03	29.27	30.01	26.66	27.32	27.51	27.81	34.09	36.63
Hired labor	37.60	39.74	33.91	35.83	33.09	34.97	39.38	41.62	47.49	50.19
Drying 3/	27.87	29.35	25.68	26.30	12.07	12.53	27.22	29.65	52.63	55.58
Other variable cash expenses 4/	12.03	12.52	1.12	2.25	0.01	1.01	21.31	21.42	33.82	33.08
Total, variable cash expenses	350.05	355.53	313.24	310.60	300.83	307.03	349.21	355.05	480.16	498.94
General farm overhead	31.03	26.60	18.72	16.04	17.12	14.67	23.50	20.14	81.64	69.98
Taxes and insurance	38.54	25.50	30.89	19.56	25.99	17.16	34.32	21.48	74.20	52.51
Interest	27.99	26.60	27.53	26.16	24.08	22.89	25.13	23.88	37.81	35.93
Total, fixed cash expenses	97.56	78.70	77.14	61.76	67.19	54.72	82.95	65.50	193.65	158.42
Total, cash expenses	447.61	434.23	390.38	372.36	368.02	361.75	432.16	420.55	673.81	657.36
Gross value of production less cash expenses	78.14	-60.39	157.71	17.58	156.93	22.72	59.51	-17.04	-8.17	-266.51
Harvest-period price (dollars/cwt.)	9.35	6.36	9.10	6.32	9.20	6.49	9.65	7.26	9.64	5.36
Yield (cwt./planted acre)	56.23	58.78	60.23	61.70	57.06	59.24	50.95	55.58	69.05	72.92

Appendix table 12b--Rice production economic costs and returns, excluding direct Government payments, 1998-99

Item	United States		Arkansas (non-Delta)		Mississippi River Delta		Gulf Coast 1/		California	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
	Dollars per planted acre									
Gross value of production (excluding direct Government payments):										
Rice	525.75	373.84	548.09	389.94	524.95	384.47	491.67	403.51	665.64	390.85
Total, gross value of production	525.75	373.84	548.09	389.94	524.95	384.47	491.67	403.51	665.64	390.85
Economic (full ownership) costs:										
Variable cash expenses	350.05	355.53	313.24	310.60	300.83	307.03	349.21	355.05	480.16	498.94
General farm overhead	31.03	26.60	18.72	16.04	17.12	14.67	23.50	20.14	81.64	69.98
Taxes and insurance	38.54	25.50	30.89	19.56	25.99	17.16	34.32	21.48	74.20	52.51
Capital replacement	60.07	62.03	58.98	60.46	53.60	54.93	58.57	59.26	72.32	77.73
Operating capital	8.50	8.47	7.60	7.39	7.30	7.31	8.52	8.49	11.64	11.88
Other nonland capital	19.10	18.16	20.49	19.48	18.27	17.38	18.97	18.04	17.80	16.92
Land	139.29	143.97	126.56	130.64	123.77	128.04	97.77	101.39	240.92	248.69
Unpaid labor	29.50	30.78	30.07	31.78	19.40	19.46	36.89	39.13	30.60	31.28
Total, economic costs	676.08	671.04	606.55	595.95	566.28	565.98	627.75	622.98	1,009.28	1,007.93
Residual returns to management and risk	-150.33	-297.20	-58.46	-206.01	-41.33	-181.51	-136.08	-219.47	-343.64	-617.08
Harvest-period price (dollars/cwt.)	9.35	6.36	9.10	6.32	9.20	6.49	9.65	7.26	9.64	5.36
Yield (cwt./planted acre)	56.23	58.78	60.23	61.70	57.06	59.24	50.95	55.58	69.05	72.92

1/ Gulf Coast includes Southwest Louisiana, Upper and Lower Texas Coast. 2/ Cost of custom operations and technical services. 3/ Commercial drying only, beginning in 1992. 4/ Cost of purchased irrigation water.



Appendix table13--Peanut production costs and returns, 1998-99

Item	United States		Prairie Gateway		Southern Seaboard			
					AL, GA	AL, GA	VA, NC	VA, NC
	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per planted acre								
Gross value of production:								
Primary product: Peanuts	641.94	613.34	445.97	455.62	693.63	631.02	800.80	715.40
Secondary product: Peanut hay	12.74	11.27	19.50	18.46	10.13	8.15	9.35	9.37
Total, gross value of production	654.68	624.61	465.47	474.08	703.76	639.17	810.15	724.77
Operating costs:								
Seed	75.48	72.89	62.11	60.22	78.15	75.02	93.04	90.19
Fertilizer	39.52	39.49	20.94	21.14	49.23	49.04	45.82	44.04
Chemicals	97.96	97.92	39.92	39.78	117.90	117.03	147.55	146.30
Custom operations	9.93	9.63	10.75	11.59	10.22	9.55	6.13	4.85
Fuel, lube, and electricity	34.60	33.25	47.41	45.76	25.41	25.06	30.61	28.19
Repairs	30.40	27.74	32.24	29.91	30.08	27.14	27.87	25.70
Interest on operating inputs	7.31	7.01	5.57	5.39	7.91	7.55	8.55	8.08
Commercial drying	17.31	17.00	19.08	20.67	19.20	18.12	5.57	4.20
Total, operating costs	312.51	304.93	238.02	234.46	338.10	328.51	365.14	351.55
Allocated overhead:								
Hired labor	35.14	37.72	25.17	26.04	33.93	36.77	48.40	52.69
Opportunity cost of unpaid labor	83.60	85.64	101.67	102.51	74.74	77.65	77.71	80.59
Capital recovery of machinery and equipment	120.89	121.91	129.18	131.39	117.53	117.69	114.49	117.05
Opportunity cost of land	42.32	45.49	67.57	70.32	31.58	35.83	40.53	42.82
Quota rent	86.40	87.66	58.51	62.06	98.63	98.64	80.63	80.66
Taxes and insurance	20.57	19.66	15.84	15.03	22.48	21.49	20.62	19.67
General farm overhead	16.91	17.51	22.16	23.10	12.66	13.19	16.77	17.47
Total, allocated overhead	405.83	415.59	420.10	430.45	391.55	401.26	399.15	410.95
Total costs listed	718.34	720.52	658.12	664.91	729.65	729.77	764.29	762.50
Value of production less total costs listed	-63.66	-95.91	-192.65	-190.83	-25.89	-90.60	45.86	-37.73
Value of production less operating costs	342.17	319.68	227.45	239.62	365.66	310.66	445.01	373.22
Supporting information:								
Peanut yield: lbs/acre	2,469	2,359	1,939	2,071	2,569	2,427	3,080	2,555
Peanut price: dollars/lb	0.26	0.26	0.23	0.22	0.27	0.26	0.26	0.28
Production practices: 1/								
Irrigated (percent)	32	32	64	64	25	25	6	6
Dryland (percent)	68	68	36	36	75	75	94	94
Land tenure: 1/								
Acres owned (percent)	35	35	35	35	37	37	23	23
Acres cash rented (percent)	55	55	38	38	61	61	63	63
Acres share rented (percent)	10	10	25	25	2	2	14	14
Land rent basis 2/	--Composite--		--Share--		--Cash--		--Cash--	

1/ Developed from survey base year, 1995. 2/ Method used to determine the opportunity cost of land.

Appendix table 14a--Sugar beet production costs and returns, 1998-99 1/

Item	United States		Great Lakes		Red River Valley		Great Plains		Northwest		Southwest	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Gross value of production:												
Beets	802.05	791.72	567.90	662.25	733.42	700.33	733.03	740.34	1,115.56	1,004.85	1,178.88	1,302.65
Beet tops	0.54	0.53	0.00	0.00	0.00	0.00	2.65	2.64	0.04	0.04	1.27	0.71
Total, gross value of production	802.59	792.25	567.90	662.25	733.42	700.33	735.68	742.98	1,115.60	1,004.89	1,180.15	1,303.36
Cash expenses:												
Seed	45.01	44.19	26.04	25.57	46.39	45.55	49.88	49.34	47.97	47.07	50.36	49.44
Fertilizer	62.82	59.93	65.31	63.89	35.68	33.83	80.66	73.32	109.51	101.98	103.90	101.54
Chemicals	73.82	72.66	60.53	58.91	71.43	70.62	75.77	73.65	83.05	81.32	89.13	89.59
Custom operations	37.44	38.19	28.23	30.31	25.78	24.79	20.74	21.67	38.37	36.35	174.64	182.62
Fuel and lubrication	37.16	39.86	21.13	24.49	18.43	19.18	45.40	49.52	90.57	94.79	60.23	62.83
Repairs	43.19	44.93	30.45	35.23	33.53	34.38	57.87	61.34	66.30	64.14	47.27	49.82
Hired labor	116.02	118.26	70.46	73.45	86.06	84.88	119.13	122.83	204.57	210.37	205.73	210.27
Purchased irrigation water	9.27	9.16	0.00	0.00	0.05	0.04	14.34	13.53	30.21	29.36	32.35	31.50
Freight and dirt hauling charges	14.52	16.85	6.25	7.49	11.25	10.85	17.19	17.11	12.99	13.64	49.03	77.91
Miscellaneous	12.54	12.80	4.12	4.31	15.71	15.77	6.24	6.16	5.63	5.70	35.68	39.39
Hauling allowance (-)	7.82	8.82	2.30	2.75	10.75	10.36	1.38	1.52	1.36	1.45	26.81	42.59
Total, variable cash expenses	443.97	448.01	310.22	320.90	333.56	329.53	485.84	486.95	687.81	683.27	821.51	852.32
General farm overhead	36.77	37.45	39.14	39.76	28.98	29.48	43.90	43.38	45.20	45.97	51.68	52.55
Taxes and insurance	44.56	45.28	65.08	65.44	40.39	40.76	42.36	43.31	39.03	39.34	55.31	56.22
Interest	53.02	53.98	57.66	58.73	48.63	49.59	62.80	62.57	54.60	55.67	48.47	49.40
Total, fixed cash expenses	134.35	136.71	161.88	163.93	118.00	119.83	149.06	149.26	138.83	140.98	155.46	158.17
Total, cash expenses	578.32	584.72	472.10	484.83	451.56	449.36	634.90	636.21	826.64	824.25	976.97	1,010.49
Gross value of production less cash expenses	224.27	207.53	95.80	177.42	281.86	250.97	100.78	106.77	288.96	180.64	203.18	292.87
Season-average price (dollars/ton)	36.91	36.91	36.71	36.71	35.21	35.21	36.56	36.56	39.97	39.97	39.80	39.80
Yield (net tons/planted acre) 2/	21.73	21.45	15.47	18.04	20.83	19.89	20.05	20.25	27.91	25.14	29.62	32.73

Appendix table 14b--Sugar beet production economic costs and returns, 1998-99 1/

Item	United States		Great Lakes		Red River Valley		Great Plains		Northwest		Southwest	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Gross value of production:												
Beets	802.05	791.72	567.90	662.25	733.42	700.33	733.03	740.34	1,115.56	1,004.85	1,178.88	1,302.65
Beet tops	0.54	0.53	0.00	0.00	0.00	0.00	2.65	2.64	0.04	0.04	1.27	0.71
Total, gross value of production	802.59	792.25	567.90	662.25	733.42	700.33	735.68	742.98	1,115.60	1,004.89	1,180.15	1,303.36
Economic (full ownership) costs:												
Variable cash expenses	443.97	448.01	310.22	320.90	333.56	329.53	485.84	486.95	687.81	683.27	821.51	852.32
General farm overhead	36.77	37.45	39.14	39.76	28.98	29.48	43.90	43.38	45.20	45.97	51.68	52.55
Taxes and insurance	44.56	45.28	65.08	65.44	40.39	40.76	42.36	43.31	39.03	39.34	55.31	56.22
Capital replacement	57.53	59.62	39.78	46.03	44.04	45.16	76.64	80.92	95.19	91.93	54.68	57.63
Operating capital	10.77	10.66	7.52	7.64	8.09	7.84	11.78	11.59	16.68	16.26	19.92	20.29
Nonland capital	28.79	28.64	26.36	28.99	21.32	20.78	40.87	40.99	41.56	38.30	28.33	28.39
Land	142.49	143.93	112.19	116.86	137.63	133.99	120.07	121.76	183.71	188.72	194.45	217.20
Coop share	25.07	23.69	0.00	0.00	51.37	50.42	0.00	0.00	0.00	0.00	0.00	0.00
Unpaid labor	53.51	55.17	70.14	73.11	41.27	40.70	88.42	92.01	50.54	52.30	31.82	32.52
Total, economic costs	843.46	852.45	670.43	698.73	706.65	698.66	909.88	920.91	1,159.72	1,156.09	1,257.70	1,317.12
Residual returns to management and risk	-40.87	-60.20	-102.53	-36.48	26.77	1.67	-174.20	-177.93	-44.12	-151.20	-77.55	-13.76
Season-average price (dollars/ton)	36.91	36.91	36.71	36.71	35.21	35.21	36.56	36.56	39.97	39.97	39.80	39.80
Yield (net tons/planted acre) 2/	21.73	21.45	15.47	18.04	20.83	19.89	20.05	20.25	27.91	25.14	29.62	32.73

1/ 1998 estimates are revised. 1999 estimates are preliminary. Sugar beet prices are held at the 1998 level because State-level prices for the 1999 season will not be available before January 2001. 2/ Yields are those reported in USDA's 1992 Farm Costs and Returns Survey of sugarbeet growers adjusted for year-over-year changes as reported by NASS/USDA in Crop Production, 1999 Summary, January 2000.

Note: Sugar beet regions defined as: Great Lakes (Michigan, Ohio), Red River Valley (Minnesota, eastern North Dakota), Great Plains (western North Dakota, Montana, Wyoming, Nebraska, Colorado, Texas), Northwest (Idaho, Oregon except Klamath County), and Southwest (California, Klamath County of Oregon).



Appendix table 15--U.S. tobacco production costs and returns, 1998-99

Item	Flue-cured				Burley			
	1998	1999	1998	1999	1998	1999	1998	1999
	Dollars per acre		Dollars per cwt		Dollars per acre		Dollars per cwt	
Gross value of production								
Tobacco	3,846.50	3,753.18	175.36	173.60	3,629.00	3,471.30	190.40	189.88
Total, gross value of production	3,846.50	3,753.18	175.36	173.60	3,629.00	3,471.30	190.40	189.88
Cash expenses:								
Seed and plant bed	59.10	63.46	2.69	2.94	100.04	98.33	5.24	5.38
Fertilizer	304.39	282.66	13.85	13.10	296.88	290.96	15.54	15.93
Chemicals	220.18	218.38	10.02	10.12	100.29	99.47	5.25	5.44
Custom operations	8.00	7.86	0.36	0.36	13.58	13.35	0.71	0.73
Fuel, lube, and electricity	59.56	62.94	2.71	2.92	63.28	66.88	3.31	3.66
Curing fuel	258.98	325.72	11.78	15.10	1/	1/	1/	1/
Repairs	110.67	112.53	5.04	5.22	72.86	74.08	3.81	4.05
Hired labor	554.12	582.09	25.21	26.99	455.40	497.01	23.84	27.20
Marketing expenses	145.95	160.76	6.64	7.45	165.02	161.32	8.64	8.83
Other variable cash expenses	3.88	3.81	0.18	0.18	20.58	19.88	1.08	1.09
Total, variable cash expenses	1,724.83	1,820.21	78.47	84.38	1,287.93	1,321.28	67.43	72.31
General farm overhead	181.75	184.80	8.27	8.57	202.86	206.27	10.62	11.29
Taxes and insurance	140.61	141.26	6.40	6.55	44.88	45.45	2.35	2.49
Interest	169.37	164.71	7.71	7.64	76.68	74.57	4.01	4.08
Total, fixed cash expenses	491.73	490.77	22.37	22.76	324.42	326.29	16.99	17.86
Total, cash expenses	2,216.56	2,310.98	100.85	107.14	1,612.35	1,647.57	84.42	90.17
Gross value of production less cash expenses	1,629.94	1,442.20	74.51	66.46	2,016.65	1,823.73	105.98	99.71
Economic (full ownership) costs:								
Variable cash expenses	1,724.83	1,820.21	78.47	84.38	1,287.93	1,321.28	67.43	72.31
General farm overhead	181.75	184.80	8.27	8.57	202.86	206.27	10.62	11.29
Taxes and insurance	140.61	141.26	6.40	6.55	44.88	45.45	2.35	2.49
Capital replacement	283.70	295.02	12.91	13.68	100.27	104.27	5.25	5.71
Operating capital	41.83	43.32	1.90	2.01	31.23	31.45	1.64	1.72
Other nonland capital	80.10	79.19	3.64	3.67	104.87	102.80	5.49	5.63
Land and quota	974.05	1,131.93	44.32	52.48	531.74	633.44	27.84	34.67
Unpaid labor	224.84	236.19	10.23	10.95	631.80	689.53	33.08	37.74
Total, economic (full ownership) costs	3,651.71	3,931.92	166.14	182.29	2,935.58	3,134.49	153.70	171.56
Residual returns to management and risk	194.79	-178.74	9.22	-8.69	693.42	336.81	36.70	18.32
Harvest-period price (dollars/lb. or cwt)	1.75	1.74	175.36	173.60	1.90	1.90	190.40	189.88
Yield (lb. or cwt/harvested acre)	2,198.00	2,157.00	21.98	21.57	1,910.00	1,827.00	19.10	18.27

1/ Burley curing fuel costs are included in fuel, lube, and electricity expenses.

Appendix table 16a--Milk production costs and returns, per cwt sold, 1998-99

Item	United States		Corn Belt		Northeast		Pacific		Southeast		Southern Plains		Upper Midwest	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per cwt														
Gross value of production:														
Milk	15.51	14.40	15.39	14.29	15.63	15.14	15.07	13.78	17.63	16.76	15.70	15.00	15.48	14.00
Cattle	0.83	0.90	1.04	1.12	0.73	0.80	0.61	0.64	0.92	0.98	0.84	0.92	0.94	1.03
Other income	0.55	0.54	0.47	0.46	0.43	0.41	0.56	0.55	0.51	0.50	0.36	0.35	0.68	0.66
Total, gross value of production	16.89	15.84	16.90	15.87	16.79	16.35	16.24	14.97	19.06	18.24	16.90	16.27	17.10	15.69
Cash expenses:														
Feed--														
Concentrates	4.00	3.70	4.41	4.13	4.07	3.58	2.94	3.04	5.79	5.10	5.50	4.97	4.07	3.66
By-products	0.23	0.23	0.28	0.29	0.04	0.04	0.47	0.52	0.50	0.50	0.19	0.18	0.13	0.12
Liquid whey	0.14	0.10	0.26	0.18	0.15	0.10	0.05	0.03	0.05	0.04	0.01	0.01	0.18	0.12
Hay	1.60	1.40	1.64	1.56	1.48	1.66	2.34	2.01	0.77	0.67	2.56	2.04	1.14	0.82
Silage	1.43	1.26	1.28	1.18	2.03	2.24	0.95	0.84	1.09	0.96	0.13	0.10	1.67	1.18
Pasture and other forage	0.11	0.10	0.13	0.13	0.03	0.03	0.12	0.09	0.06	0.06	0.10	0.10	0.14	0.16
Total, feed costs	7.51	6.79	8.00	7.47	7.80	7.65	6.87	6.53	8.26	7.33	8.49	7.40	7.33	6.06
Other--														
Hauling	0.45	0.46	0.45	0.46	0.69	0.70	0.38	0.41	0.95	0.94	0.53	0.57	0.29	0.29
Artificial insemination	0.15	0.15	0.12	0.12	0.20	0.20	0.11	0.12	0.12	0.12	0.04	0.04	0.17	0.18
Veterinary and medicine	0.39	0.40	0.41	0.41	0.44	0.46	0.20	0.21	0.49	0.48	0.17	0.19	0.49	0.49
Bedding and litter	0.25	0.25	0.32	0.32	0.38	0.37	0.05	0.06	0.00	0.00	0.00	0.00	0.34	0.33
Marketing	0.37	0.38	0.31	0.32	0.45	0.47	0.44	0.46	0.52	0.52	0.24	0.26	0.29	0.29
Custom services and supplies	0.43	0.44	0.39	0.40	0.55	0.56	0.39	0.41	0.64	0.64	0.28	0.30	0.39	0.39
Fuel, lube, and electricity	0.49	0.48	0.52	0.51	0.65	0.62	0.26	0.28	0.31	0.31	0.44	0.43	0.56	0.55
Repairs	0.85	0.87	0.99	1.01	1.01	1.02	0.32	0.34	0.67	0.70	0.47	0.49	1.13	1.14
Hired labor	0.57	0.55	0.54	0.52	0.57	0.53	0.52	0.51	1.27	1.21	0.72	0.67	0.50	0.49
DH/A fees	0.08	0.08	0.07	0.07	0.10	0.10	0.07	0.07	0.05	0.06	0.04	0.05	0.08	0.08
Total, variable cash expenses	11.54	10.85	12.12	11.61	12.84	12.68	9.61	9.40	13.28	12.31	11.42	10.40	11.57	10.29
General farm overhead	0.62	0.60	0.66	0.64	0.61	0.60	0.39	0.38	0.74	0.72	0.53	0.51	0.75	0.73
Taxes and insurance	0.36	0.31	0.33	0.28	0.48	0.41	0.14	0.12	0.40	0.34	0.18	0.16	0.46	0.39
Interest	0.95	0.98	0.79	0.82	0.87	0.90	0.71	0.73	0.67	0.68	0.67	0.69	1.29	1.33
Total, fixed cash expenses	1.93	1.89	1.78	1.74	1.96	1.91	1.24	1.23	1.81	1.74	1.38	1.36	2.50	2.45
Total, cash expenses	13.47	12.74	13.90	13.35	14.80	14.59	10.85	10.63	15.09	14.05	12.80	11.76	14.07	12.74
Gross value of production less cash expenses	3.42	3.10	3.00	2.52	1.99	1.76	5.39	4.34	3.97	4.19	4.10	4.51	3.03	2.95

Appendix table 16b--Milk production economic costs and returns, per cwt sold, 1998-99

Item	United States		Corn Belt		Northeast		Pacific		Southeast		Southern Plains		Upper Midwest	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per cwt														
Gross value of production:														
Milk	15.51	14.40	15.39	14.29	15.63	15.14	15.07	13.78	17.63	16.76	15.70	15.00	15.48	14.00
Cattle	0.83	0.90	1.04	1.12	0.73	0.80	0.61	0.64	0.92	0.98	0.84	0.92	0.94	1.03
Other income	0.55	0.54	0.47	0.46	0.43	0.41	0.56	0.55	0.51	0.50	0.36	0.35	0.68	0.66
Total, gross value of production	16.89	15.84	16.90	15.87	16.79	16.35	16.24	14.97	19.06	18.24	16.90	16.27	17.10	15.69
Economic (full-ownership) costs:														
Variable cash expenses	11.54	10.85	12.12	11.61	12.84	12.68	9.61	9.40	13.28	12.31	11.42	10.40	11.57	10.29
General farm overhead	0.62	0.60	0.66	0.64	0.61	0.60	0.39	0.38	0.74	0.72	0.53	0.51	0.75	0.73
Taxes and insurance	0.36	0.31	0.33	0.28	0.48	0.41	0.14	0.12	0.40	0.34	0.18	0.16	0.46	0.39
Capital replacement	2.10	2.17	2.21	2.25	2.07	2.12	1.34	1.44	2.51	2.66	1.99	2.13	2.53	2.57
Operating capital	0.10	0.09	0.10	0.09	0.11	0.10	0.08	0.07	0.11	0.09	0.10	0.08	0.10	0.08
Other nonland capital	0.87	0.85	0.87	0.84	0.82	0.80	0.56	0.57	1.47	1.49	0.79	0.81	1.03	0.99
Land	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01
Unpaid labor	1.65	1.59	2.68	2.54	2.38	2.23	0.43	0.43	0.31	0.29	0.83	0.77	1.95	1.86
Total, economic (full-ownership) costs	17.25	16.47	18.98	18.26	19.31	18.94	12.56	12.42	18.83	17.91	15.84	14.86	18.40	16.92
Residual returns to management and risk	-0.36	-0.63	-2.08	-2.39	-2.52	-2.59	3.68	2.55	0.23	0.33	1.06	1.41	-1.30	-1.23



Appendix table 17--Hog production costs and returns per hundredweight gain, 1998-99

Item	United States		Heartland		Northern Crescent		Northern Great Plains		Prairie Gateway		Eastern Uplands		Southern Seaboard		Mississippi Portal	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars per cwt gain 1/																
Gross value of production	33.30	29.21	33.79	29.61	32.58	28.12	35.49	31.14	33.14	28.33	27.94	24.68	32.83	29.29	29.78	26.16
Market hogs	7.22	9.72	5.78	7.82	2.96	3.99	6.16	8.01	1.60	2.17	11.33	15.17	14.25	18.64	7.04	9.59
Feeder pigs	1.03	0.93	0.97	0.85	1.84	1.81	0.81	0.72	1.99	1.90	1.93	1.79	0.52	0.46	1.50	1.48
Cull stock	0.70	0.65	0.36	0.33	0.42	0.29	0.09	0.08	3.44	3.25	3.13	2.96	0.47	0.43	0.52	0.48
Breeding stock	0.24	-0.17	-0.13	-0.89	-1.64	-0.98	1.73	0.64	3.40	1.46	-1.86	-0.66	0.70	1.45	-0.81	-1.02
Inventory change	1.39	1.32	1.55	1.47	1.81	1.74	1.01	0.95	0.99	0.93	1.17	1.14	1.04	0.96	1.24	1.26
Other income 2/	43.88	41.66	42.32	39.19	37.97	34.97	45.29	41.54	44.56	38.04	43.64	45.08	49.81	51.23	39.27	37.95
Total, gross value of production																
Operating costs:																
Feed --																
Grain	6.25	5.07	7.85	6.46	8.99	7.27	4.17	3.10	6.09	4.90	5.64	4.70	0.89	0.70	12.16	10.27
Protein sources	5.15	4.21	6.74	5.62	6.93	5.60	2.48	1.95	4.76	3.73	2.79	2.04	0.54	0.38	6.64	4.68
Complete mixes	10.56	9.79	8.33	7.54	4.66	4.12	13.97	12.60	9.36	8.58	12.66	11.88	18.87	17.75	4.38	4.12
Other feed items 3/	0.21	0.17	0.25	0.20	0.24	0.20	0.03	0.02	0.15	0.12	0.82	0.77	0.01	0.01	0.09	0.09
Total feed cost	22.17	19.24	23.17	19.82	20.82	17.19	20.65	17.67	20.36	17.33	21.91	19.39	20.31	18.84	23.27	19.16
Other --																
Feeder pigs	8.36	11.13	7.16	9.59	5.74	7.78	12.89	17.06	8.62	11.06	5.59	7.39	12.64	16.53	4.84	6.32
Veterinary and medicine	1.05	1.04	1.15	1.14	0.96	0.93	0.81	0.81	0.84	0.83	1.17	1.18	0.86	0.86	1.45	1.47
Bedding and litter	0.03	0.03	0.04	0.04	0.02	0.02	0.03	0.02	0.03	0.03	0.03	0.03	0.00	0.00	0.01	0.01
Marketing	0.95	0.97	0.61	0.62	0.52	0.52	0.55	0.54	0.64	0.64	1.49	1.51	2.16	2.18	0.79	0.77
Custom services	0.36	0.37	0.28	0.29	0.26	0.27	0.04	0.04	0.10	0.09	0.14	0.14	0.72	0.73	0.32	0.33
Fuel, tube, and electricity	1.05	1.12	1.14	1.21	1.08	1.15	0.91	0.94	0.84	0.90	1.49	1.59	0.77	0.81	2.07	2.20
Repairs	0.78	0.76	0.89	0.86	0.86	0.81	0.50	0.47	0.69	0.69	1.01	1.00	0.45	0.44	1.07	1.06
Other operating costs 4/	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.07	0.07	0.03	0.03	0.00	0.00
Interest on operating capital	0.83	0.82	0.83	0.79	0.73	0.68	0.87	0.88	0.77	0.74	0.79	0.76	0.91	0.95	0.85	0.74
Total, operating costs	35.61	35.51	35.30	34.39	31.02	29.38	37.29	38.48	32.94	32.36	33.69	33.06	38.85	41.37	34.67	32.06
Allocated overhead:																
Hired labor	2.07	2.22	2.11	2.30	2.23	2.25	0.91	0.97	2.71	2.77	2.28	2.37	1.64	1.72	2.75	2.80
Opportunity cost of unpaid labor	5.51	5.17	6.37	5.97	6.91	6.82	5.23	4.81	4.13	3.97	9.47	9.30	2.31	2.16	25.01	25.60
Capital recovery of machinery and equipment	10.32	10.09	10.74	10.45	11.18	10.98	8.87	8.64	10.28	10.31	12.75	12.47	8.33	8.27	24.56	24.70
Opportunity cost of land (rental rate)	0.06	0.05	0.07	0.05	0.07	0.07	0.03	0.02	0.06	0.06	0.10	0.08	0.04	0.04	0.77	0.85
Taxes and insurance	0.46	0.45	0.49	0.48	0.44	0.44	0.86	0.85	0.51	0.52	0.77	0.78	0.27	0.26	0.76	0.77
General farm overhead	0.95	0.94	1.00	0.98	0.94	0.95	1.30	1.30	1.15	1.17	1.07	1.07	0.62	0.61	2.70	2.97
Total, allocated overhead	19.37	18.92	20.78	20.23	21.77	21.51	17.20	16.59	18.84	18.80	26.44	26.07	13.21	13.06	56.55	57.69
Total costs listed	54.98	54.43	56.08	54.62	52.79	50.89	54.49	55.07	51.78	51.16	60.13	59.13	52.06	54.43	91.22	89.75
Value of production less total costs listed	-11.10	-12.77	-13.76	-15.43	-14.82	-15.92	-9.20	-13.53	-7.22	-13.12	-16.49	-14.05	-2.25	-3.20	-51.95	-51.80
Value of production less operating costs	8.27	6.15	7.02	4.80	6.95	5.59	8.00	3.06	11.62	5.68	9.95	12.02	10.96	9.86	4.60	5.89
Supporting information:																
Production arrangement (percent of production) 5/																
Independent	60	59	73	71	74	73	48	47	85	84	42	40	13	13	94	93
Under contract	40	41	27	29	26	27	52	53	15	16	58	60	87	87	6	7
Size of operation (head sold/removed) 5/																
Market hogs	1,540	1,726	1,373	1,522	979	1,032	1,518	1,776	1,763	2,012	797	873	4,360	5,074	361	367
Feeder pigs	1,049	1,224	726	845	200	214	570	664	487	593	1,302	1,464	5,661	6,652	236	253

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production. 3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

4/ Costs for odor control and fees, permits, licenses, and other regulatory costs. 5/ Developed from survey base year, 1998.

Appendix table 18--Farrow-to-finish production costs and returns per hundredweight gain, 1998-99

Item	United States		Heartland		Northern Crescent		Prairie Gateway		Eastern Upland		Southern Seaboard	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
	Dollars per cwt gain <sup>1/</sup>											
Gross value of production												
Market hogs	33.01	28.93	32.87	28.90	29.99	25.60	37.45	32.24	31.15	26.95	36.45	32.76
Feeder pigs	0.41	0.55	0.44	0.60	0.32	0.39	0.28	0.36	0.52	0.61	0.17	0.19
Cull stock	1.61	1.47	1.61	1.45	2.94	2.98	0.90	0.82	0.67	0.62	1.06	0.98
Breeding stock	0.16	0.15	0.14	0.14	0.20	0.20	0.26	0.22	0.04	0.03	0.27	0.26
Inventory change	-1.61	-0.98	-1.78	-1.06	-2.38	-1.10	-0.62	-1.07	-1.99	-1.07	-1.02	-0.45
Other income <sup>2/</sup>	1.44	1.36	1.49	1.41	1.69	1.63	0.95	0.88	1.12	1.08	1.21	1.16
Total, gross value of production	35.02	31.48	34.77	31.44	32.76	29.70	39.22	33.45	31.51	28.22	38.14	34.90
Operating costs:												
Feed --												
Grain	9.82	8.19	9.85	8.27	10.70	8.80	8.70	6.93	9.68	8.18	8.99	7.71
Protein sources	8.62	7.31	9.12	7.81	7.77	6.50	6.98	5.59	5.56	4.21	5.53	4.37
Complete mixes	4.67	4.30	4.73	4.37	2.96	2.59	3.58	3.16	5.16	5.12	10.11	9.63
Other feed items <sup>3/</sup>	0.34	0.29	0.39	0.33	0.32	0.28	0.16	0.12	0.06	0.05	0.09	0.08
Total feed cost	23.45	20.09	24.09	20.78	21.75	18.17	19.42	15.80	20.46	17.56	24.72	21.79
Other --												
Feeder pigs	0.06	0.08	0.04	0.06	0.33	0.47	0.00	0.00	0.02	0.02	0.01	0.01
Veterinary and medicine	1.41	1.43	1.54	1.56	0.94	0.93	1.33	1.33	1.06	1.08	0.76	0.78
Bedding and litter	0.05	0.04	0.05	0.05	0.02	0.02	0.05	0.04	0.04	0.04	0.00	0.00
Marketing	0.39	0.38	0.35	0.34	0.38	0.36	0.56	0.56	0.59	0.57	0.62	0.63
Custom services	0.28	0.29	0.26	0.26	0.22	0.22	0.23	0.23	0.12	0.13	0.24	0.26
Fuel, lube, and electricity	1.19	1.27	1.19	1.27	1.07	1.14	1.08	1.12	0.99	1.01	1.37	1.46
Repairs	1.14	1.10	1.19	1.16	0.90	0.86	1.05	1.02	0.91	0.82	0.97	0.95
Other operating costs <sup>4/</sup>	0.04	0.04	0.03	0.03	0.03	0.03	0.10	0.08	0.02	0.02	0.11	0.11
Interest on operating capital	0.67	0.58	0.69	0.60	0.61	0.52	0.57	0.47	0.58	0.50	0.70	0.61
Total, operating costs	28.68	25.30	29.43	26.11	26.25	22.72	24.39	20.65	24.79	21.75	29.50	26.60
Allocated overhead:												
Hired labor	2.48	2.72	2.29	2.51	1.97	2.05	3.05	3.28	1.97	2.10	4.63	5.16
Opportunity cost of unpaid labor	8.15	7.66	8.15	7.70	8.75	8.63	6.32	5.72	9.14	8.73	8.08	7.26
Capital recovery of machinery and equipment	11.78	11.44	11.61	11.25	12.14	12.05	9.91	9.62	12.03	11.27	15.31	14.78
Opportunity cost of land (rental rate)	0.08	0.07	0.08	0.06	0.09	0.09	0.09	0.09	0.13	0.11	0.12	0.11
Taxes and insurance	0.52	0.52	0.50	0.51	0.37	0.36	0.70	0.69	0.48	0.48	0.50	0.48
General farm overhead	1.18	1.19	1.06	1.06	0.90	0.88	1.06	1.07	1.00	0.99	3.12	3.25
Total, allocated overhead	24.19	23.60	23.69	23.09	24.22	24.06	21.13	20.47	24.75	23.68	31.76	31.04
Total costs listed	52.87	48.90	53.12	49.20	50.47	46.78	45.52	41.12	49.54	45.43	61.26	57.64
Value of production less total costs listed	-17.85	-17.42	-18.35	-17.76	-17.71	-17.08	-6.30	-7.67	-18.03	-17.21	-23.12	-22.74
Value of production less operating costs	6.34	6.18	5.34	5.33	6.51	6.98	14.83	12.80	6.72	6.47	8.64	8.30
Supporting information:												
Production arrangement (percent of production) <sup>5/</sup>												
Independent	98	98	99	99	91	90	100	100	83	81	94	94
Under contract	2	2	1	1	9	10	0	0	17	19	6	6
Size of operation (head sold/removed) <sup>5/</sup>												
Market hogs	1,200	1,333	1,245	1,366	1,042	1,103	1,418	1,684	747	835	1,145	1,404
Feeder pigs	39	42	43	46	27	27	28	32	39	39	18	19

<sup>1/</sup> Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. <sup>2/</sup> Value of manure production. <sup>3/</sup> Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

<sup>4/</sup> Costs for odor control and fees, permits, licenses, and other regulatory costs. <sup>5/</sup> Developed from survey base year, 1998.



Appendix table 19--Farrow-to-feeder pig production costs and returns per hundredweight gain, 1998-99

Item	United States		Eastern Upland		Southern Seaboard	
	1998	1999	1998	1999	1998	1999
Dollars per cwt gain <sup>1/</sup>						
Gross value of production						
Market hogs	1.52	1.33	1.02	0.95	3.63	3.34
Feeder pigs	64.04	82.77	60.97	79.61	64.84	83.92
Cull stock	2.39	2.17	4.66	4.31	2.70	2.37
Breeding stock	0.22	0.19	2.10	2.04	0.24	0.21
Inventory change	4.52	-4.04	-1.10	-0.68	0.02	-0.21
Other income <sup>2/</sup>	1.29	1.21	1.31	1.30	1.24	1.15
Total, gross value of production	73.98	83.63	68.96	87.53	72.67	90.78
Operating costs:						
Feed --						
Grain	2.45	2.02	4.94	4.40	0.09	0.05
Protein sources	1.27	1.04	0.92	0.68	0.31	0.20
Complete mixes	26.43	23.58	22.53	20.65	25.53	24.09
Other feed items <sup>3/</sup>	0.25	0.20	3.03	2.79	0.03	0.02
Total feed cost	30.40	26.84	31.42	28.52	25.96	24.36
Other --						
Feeder pigs	0.35	0.44	0.04	0.06	1.10	1.46
Veterinary and medicine	2.39	2.34	2.90	2.89	3.71	3.76
Bedding and litter	0.06	0.06	0.00	0.00	0.00	0.00
Marketing	3.54	3.50	3.34	3.35	5.99	5.98
Custom services	0.26	0.25	0.03	0.03	0.67	0.68
Fuel, lube, and electricity	2.84	3.06	4.32	4.61	2.16	2.32
Repairs	1.08	1.06	1.18	1.21	1.13	1.14
Other operating costs <sup>4/</sup>	0.04	0.03	0.05	0.05	0.04	0.03
Interest on operating capital	0.98	0.88	1.04	0.96	0.98	0.93
Total, operating costs	41.94	38.46	44.32	41.68	41.74	40.66
Allocated overhead:						
Hired labor	10.93	11.59	5.43	5.76	6.43	6.82
Opportunity cost of unpaid labor	7.94	7.88	20.63	21.09	5.01	4.62
Capital recovery of machinery and equipment	24.96	24.97	26.06	25.87	19.35	19.38
Opportunity cost of land (rental rate)	0.09	0.08	0.10	0.09	0.08	0.06
Taxes and insurance	0.91	0.91	1.48	1.51	0.78	0.78
General farm overhead	1.48	1.46	2.01	1.90	1.49	1.53
Total, allocated overhead	46.31	46.89	55.71	56.22	33.14	33.19
Total costs listed	88.25	85.35	100.03	97.90	74.88	73.85
Value of production less total costs listed	-14.27	-1.72	-31.07	-10.37	-2.21	16.93
Value of production less operating costs	32.04	45.17	24.64	45.85	30.93	50.12
Supporting information:						
Production arrangement (percent of production) <sup>5/</sup>						
Independent	23	23	24	24	1	1
Under contract	77	77	76	76	99	99
Size of operation (head sold/removed) <sup>5/</sup>						
Market hogs	52	58	22	23	245	310
Feeder pigs	7,220	8,129	3,474	3,587	13,753	16,908

<sup>1/</sup> Cwt gain = (cwt sold - cwt purchased) + cwt inventory change.

<sup>2/</sup> Value of manure production.

<sup>3/</sup> Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

<sup>4/</sup> Costs for odor control and fees, permits, licenses, and other regulatory costs.

<sup>5/</sup> Developed from survey base year, 1998.



Appendix table 20--Feeder pig-to-finish production costs and returns per hundredweight gain, 1998-99

Item	United States		Heartland		Northern Crescent		Eastern Upland		Southern Seaboard	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
	Dollars per cwt gain 1/									
Gross value of production										
Market hogs	39.70	35.06	40.80	35.90	37.86	32.90	38.01	34.44	40.06	35.74
Feeder pigs	0.23	0.28	0.14	0.16	0.00	0.00	0.00	0.00	0.35	0.46
Cull stock	0.27	0.25	0.01	0.01	0.13	0.09	0.00	0.00	0.13	0.12
Breeding stock	0.28	0.25	0.02	0.01	0.00	0.00	0.00	0.00	0.06	0.05
Inventory change	1.51	1.10	1.05	0.21	0.34	-0.75	-1.44	-0.49	1.23	2.24
Other income 2/	1.37	1.30	1.67	1.60	1.89	1.80	1.04	1.02	0.98	0.91
Total, gross value of production	43.36	38.24	43.69	37.89	40.22	34.04	37.61	34.97	42.81	39.52
Operating costs:										
Feed --										
Grain	3.83	3.11	5.99	4.93	6.78	5.48	2.40	2.08	0.18	0.14
Protein sources	2.59	2.10	4.03	3.35	4.23	3.32	1.32	0.91	0.06	0.03
Complete mixes	13.41	12.21	10.58	9.24	7.92	7.02	14.88	13.55	18.43	17.25
Other feed items 3/	0.07	0.05	0.10	0.07	0.21	0.17	0.00	0.00	0.00	0.00
Total feed cost	19.90	17.47	20.70	17.59	19.14	15.99	18.60	16.54	18.67	17.42
Other --										
Feeder pigs	15.85	20.61	16.79	21.88	14.46	19.24	11.29	14.50	14.50	18.78
Veterinary and medicine	0.43	0.43	0.50	0.50	0.30	0.29	0.55	0.57	0.32	0.32
Bedding and litter	0.01	0.01	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00
Marketing	0.84	0.86	0.52	0.54	0.49	0.50	0.65	0.64	1.55	1.56
Custom services	0.38	0.40	0.32	0.34	0.15	0.15	0.03	0.03	0.69	0.69
Fuel, lube, and electricity	0.60	0.65	0.73	0.79	0.44	0.47	0.61	0.65	0.44	0.47
Repairs	0.38	0.37	0.43	0.42	0.50	0.46	0.51	0.51	0.30	0.29
Other operating costs 4/	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.01	0.01
Interest on operating capital	0.92	0.96	0.96	0.99	0.85	0.87	0.77	0.79	0.87	0.93
Total, operating costs	39.33	41.78	41.00	43.10	36.38	38.02	33.05	34.27	37.35	40.47
Allocated overhead:										
Hired labor	0.65	0.65	0.43	0.42	1.34	1.29	0.57	0.56	0.57	0.59
Opportunity cost of unpaid labor	2.65	2.53	3.67	3.49	4.33	4.29	2.80	2.72	1.18	1.19
Capital recovery of machinery and equipment	6.58	6.46	6.87	6.66	8.04	7.70	6.18	6.09	5.19	5.23
Opportunity cost of land (rental rate)	0.03	0.03	0.04	0.03	0.02	0.02	0.06	0.06	0.03	0.03
Taxes and insurance	0.34	0.32	0.40	0.38	0.49	0.49	0.56	0.56	0.18	0.18
General farm overhead	0.64	0.63	0.80	0.78	0.88	0.90	0.44	0.45	0.27	0.28
Total, allocated overhead	10.89	10.62	12.21	11.76	15.10	14.69	10.61	10.44	7.42	7.50
Total costs listed	50.22	52.40	53.21	54.86	51.48	52.71	43.66	44.71	44.77	47.97
Value of production less total costs listed	-6.86	-14.16	-9.52	-16.97	-11.26	-18.67	-6.05	-9.74	-1.96	-8.45
Value of production less operating costs	4.03	-3.54	2.69	-5.21	3.84	-3.98	4.56	0.70	5.46	-0.95
Supporting information:										
Production arrangement (percent of production) 5/										
Independent	37	35	49	47	43	39	13	12	7	7
Under contract	63	65	51	53	57	61	87	88	93	93
Size of operation (head sold/removed) 5/										
Market hogs	2,718	3,042	1,959	2,190	952	996	2,716	3,047	10,691	11,329
Feeder pigs	38	42	13	13	0	0	0	0	260	280

1/ Cwt gain = (cwt sold - cwt purchased) + cwt inventory change. 2/ Value of manure production. 3/ Milk replacer, milk, milk by-products, antibiotics, and other medicated additives.

4/ Costs for odor control and fees, permits, licenses, and other regulatory costs. 5/ Developed from survey base year, 1998.



Appendix table 21--Cow-calf production costs and returns per bred cow, 1998-99

Item	United States		Heartland		Northern Great Plains		Prairie Gateway		Eastern Uplands		Fruitful Rim		Basin and Range		Mississippi Portal	
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999
Dollars																
Gross value of production:																
Steer calves	127.91	138.06	148.52	160.38	130.90	143.94	138.86	147.82	112.42	120.51	71.26	76.99	137.90	150.62	115.82	122.23
Heifer calves	79.43	85.87	100.38	108.78	81.21	89.33	75.13	80.04	90.07	96.37	49.08	52.93	85.47	93.73	99.22	104.71
Yearling steers	86.20	91.80	31.17	33.79	101.19	109.87	120.11	127.36	46.10	48.94	49.87	52.25	122.14	127.68	63.32	67.15
Yearling heifers	36.76	39.16	9.69	10.30	29.53	31.86	62.30	66.43	20.36	21.61	19.76	20.69	51.06	54.71	15.99	16.96
Other cattle	68.73	71.34	60.56	62.60	83.01	86.67	70.81	73.16	56.19	56.87	56.67	59.09	75.18	79.48	55.25	55.25
Total gross value of production	404.89	432.27	354.61	380.28	432.47	468.45	473.73	501.57	331.80	351.16	251.20	266.64	477.52	512.05	355.47	372.01
Operating costs:																
Purchased cattle for backgrounding	56.27	59.76	20.17	22.43	31.14	34.41	94.90	100.51	35.62	37.33	46.21	48.53	81.52	85.41	34.30	36.37
Feed:																
Concentrates and other feed	26.95	23.87	26.36	24.11	20.26	18.03	35.66	31.05	23.83	22.26	22.66	19.95	9.60	8.68	19.50	19.79
Supplemental feed	15.23	15.01	32.76	32.45	33.15	32.47	5.45	5.31	12.15	11.97	3.28	2.98	2.51	2.31	14.76	13.51
Harvested forages	130.78	115.73	193.70	179.36	110.49	89.79	109.25	92.03	220.15	222.47	87.94	77.83	121.58	105.52	166.57	154.67
Cropland pasture	13.16	13.45	14.76	13.28	7.10	7.63	25.06	26.34	4.04	3.81	3.71	3.47	5.50	5.84	3.88	3.53
Private pasture	96.13	98.19	69.64	65.81	108.17	113.47	81.05	88.28	65.50	64.89	166.33	152.80	120.02	126.88	59.83	54.51
Public land	2.26	2.54	0.35	0.35	6.20	7.05	1.17	1.36	0.37	0.38	1.61	1.63	3.18	3.38	0.00	0.00
Total feed costs	284.51	268.79	337.57	315.36	285.37	268.44	257.64	244.37	326.04	325.78	285.53	258.66	262.39	252.61	264.54	246.01
Other:																
Veterinary and medicine	22.04	22.68	39.30	40.91	15.38	15.70	18.94	19.19	15.46	16.00	35.08	36.34	16.07	16.29	20.41	19.84
Bedding and litter	0.37	0.39	1.20	1.23	0.22	0.22	0.03	0.03	0.52	0.56	0.41	0.44	0.66	0.70	0.01	0.01
Marketing	5.86	6.04	4.29	4.43	6.63	6.78	6.52	6.76	6.66	6.86	4.56	4.69	5.77	5.83	5.87	5.71
Custom operations	31.02	31.92	41.01	42.56	31.08	31.68	23.47	24.03	26.22	26.79	54.78	56.97	24.48	24.81	21.31	20.73
Fuel, lube, and electricity	19.14	19.10	16.18	16.20	16.44	16.40	22.33	22.31	15.66	15.65	22.28	22.25	18.81	18.74	27.07	27.07
Repairs	25.34	26.08	29.66	30.79	22.69	23.30	30.43	31.31	24.91	25.61	18.61	19.13	17.10	17.20	22.95	22.32
Interest on operating inputs	11.36	11.15	12.67	12.46	10.89	10.71	11.46	11.24	10.77	10.54	11.54	11.30	11.53	11.32	8.11	7.96
Total operating costs	455.91	445.91	502.05	486.37	419.84	407.64	465.72	459.75	461.86	465.12	479.00	458.31	438.33	432.91	404.57	386.02
Allocated overhead:																
Hired labor	3.12	3.24	0.48	0.52	0.65	0.68	2.37	2.46	2.84	2.91	15.28	16.00	1.32	1.41	0.39	0.38
Opportunity cost of unpaid labor	229.58	236.11	188.27	194.62	309.71	319.50	177.90	181.70	144.12	147.98	263.29	270.50	377.53	387.46	501.79	520.10
Capital recovery cost of machinery and equipment	122.54	121.32	254.55	239.25	74.76	73.16	118.18	120.39	166.29	166.10	71.62	72.65	63.73	64.89	150.36	154.05
Opportunity cost of land	2.26	2.74	5.10	5.24	2.89	3.36	1.48	2.05	2.10	3.08	0.94	1.31	1.47	1.86	1.35	2.50
Taxes and insurance	32.00	32.15	42.31	42.66	32.40	32.36	29.19	29.37	31.17	31.26	30.28	30.33	29.69	29.83	25.21	25.31
General farm overhead	55.95	56.94	77.11	78.99	51.27	51.79	56.85	57.83	49.63	50.67	50.22	50.94	51.05	51.82	50.44	51.29
Total allocated overhead	445.45	452.50	567.82	561.28	471.68	480.85	385.97	393.80	396.15	402.00	431.63	441.73	524.79	537.27	729.54	753.63
Total costs listed	901.36	898.41	1,069.87	1,047.65	891.52	888.49	851.69	853.55	858.01	867.12	910.63	900.04	963.12	970.18	1,134.11	1,139.65
Value of production less total costs listed	-496.47	-466.14	-715.26	-667.37	-459.05	-420.04	-377.96	-351.98	-526.21	-515.96	-659.43	-633.40	-485.60	-458.13	-778.64	-767.64
Value of production less operating costs	-51.02	-13.64	-147.44	-106.09	12.63	60.81	8.01	41.82	-130.06	-113.96	-227.80	-191.67	39.19	79.14	-49.10	-14.01
Supporting information:																
Bred cows (head) 1/	83	83	51	51	174	174	78	78	50	50	138	138	170	170	53	53
Calves weaned (head) 1/	71	71	45	45	162	162	66	66	38	38	113	113	152	152	44	44
Calving season (percent of ranches) 1/																
One	49	49	65	65	95	95	42	42	19	19	46	46	81	81	22	22
Two	13	13	9	9	4	4	14	14	23	23	3	3	6	6	14	14
None set	38	38	26	26	1	1	44	44	58	58	51	51	13	13	64	64
Cost of homegrown harvested forages (percent of total cost) 1/ 2/	84	84	94	94	89	89	81	81	87	87	55	55	69	69	82	82
Cost of pasture owned:																
Private pasture (percent of total cost) 1/ 3/	72	72	72	72	61	61	66	66	87	87	80	80	60	60	87	87
Cropland pasture (percent of total cost) 1/ 3/	80	80	76	76	84	84	77	77	96	96	83	83	81	81	75	75

1/ Developed from survey base year, 1996. 2/ Percent of total harvested forage cost from charge on homegrown forages. 3/ Percent of total pasture cost from charge on owned pasture.

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